

=> d his

(FILE 'HOME' ENTERED AT 19:39:20 ON 27 JUN 2007)

FILE 'REGISTRY' ENTERED AT 19:40:37 ON 27 JUN 2007

L1 STRUCTURE UPLOADED  
L2 50 S L1 SSS SAM  
L3 126841 S L1 SSS FULL

FILE 'HCAPLUS' ENTERED AT 19:42:07 ON 27 JUN 2007

L4 11697 S L3  
L5 2246 S (HYDROPHOB? MODIFIED)  
L6 13 S L4 AND L5

FILE 'STNGUIDE' ENTERED AT 19:43:40 ON 27 JUN 2007

FILE 'HCAPLUS' ENTERED AT 19:44:49 ON 27 JUN 2007

L7 186 S HEUR  
L8 135 S L7 AND L5  
L9 1 S L7 AND L4  
L10 120311 S URETHANE?  
L11 698 S L10 AND L4  
L12 1 S L11 AND L8  
L13 111 S L11 AND 7  
L14 1 S L11 AND L7  
L15 170036 S HYDROPHOB?  
L16 31 S L15 AND L11  
L17 0 S L6 NOT L6  
L18 28 S L16 NOT L6

FILE 'STNGUIDE' ENTERED AT 19:49:07 ON 27 JUN 2007

FILE 'HCAPLUS' ENTERED AT 19:52:56 ON 27 JUN 2007

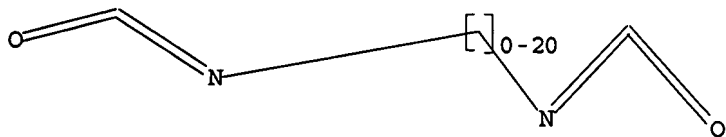
L19 32 S TERMINAL HYDROPHOBE  
L20 0 S L19 AND L4

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss sam

SAMPLE SEARCH INITIATED 19:40:59 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 101372 TO ITERATE

2.0% PROCESSED 2000 ITERATIONS 50 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*INCOMPLETE\*\*  
BATCH \*\*INCOMPLETE\*\*  
PROJECTED ITERATIONS: 2008550 TO 2046330  
PROJECTED ANSWERS: 217690 TO 230374

L2 50 SEA SSS SAM L1

=> s l1 sss full

FULL SEARCH INITIATED 19:41:05 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 2027031 TO ITERATE

39.7% PROCESSED 803727 ITERATIONS 114210 ANSWERS  
48.0% PROCESSED 973659 ITERATIONS 123980 ANSWERS  
49.3% PROCESSED 1000000 ITERATIONS 126841 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.42

FULL FILE PROJECTIONS: ONLINE \*\*INCOMPLETE\*\*  
BATCH \*\*INCOMPLETE\*\*  
PROJECTED ITERATIONS: 2027031 TO 2027031  
PROJECTED ANSWERS: 255591 TO 258629

L3 126841 SEA SSS FUL L1

=> fil hcaplus

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
173.00	173.42

FULL ESTIMATED COST

FILE 'HCAPLUS' ENTERED AT 19:42:07 ON 27 JUN 2007

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE COVERS 1907 - 27 Jun 2007 VOL 147 ISS 1  
FILE LAST UPDATED: 26 Jun 2007 (20070626/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L4 11697 L3

=> s (hydrophob? modified)

170036 HYDROPHOB?

588199 MODIFIED

6 MODIFIEDS

588203 MODIFIED

(MODIFIED OR MODIFIEDS)

L5 2246 (HYDROPHOB? MODIFIED)

(HYDROPHOB? (W)MODIFIED)

=> s 14 and 15

L6 13 L4 AND L5

=> d 16 ibib abs hitstr 1-13

L6 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:259760 HCAPLUS

DOCUMENT NUMBER: 146:297297

TITLE: Hydrophobically modified  
polyrotaxanes with good solubility in organic solvents  
and crosslinked polyrotaxanes

INVENTOR(S): Ito, Kohzo; Araki, Jun; Suzuki, Tatsuya; Yamanaka,  
Masahiko; Watanabe, Kentarou

PATENT ASSIGNEE(S): Nissan Motor Co., Ltd., Japan; The University of Tokyo

SOURCE: PCT Int. Appl., 45pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007026578	A1	20070308	WO 2006-JP316457	20060823
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW</p> <p>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,</p>				

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM

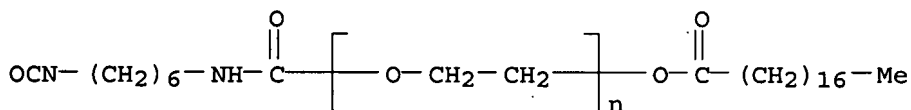
JP 2007091938 A 20070412 JP 2005-284925 20050929  
PRIORITY APPLN. INFO.: JP 2005-251508 A 20050831  
JP 2005-284925 A 20050929

AB Title hydrophobically modified polyrotaxanes comprise cyclic mols., a linear mol. which pierces the cyclic mols. to form a clathrate therewith, and blocking groups which are disposed at both ends of this linear mol. and prevent the cyclic mols. from being released. The cyclic mols. are a cyclodextrin, and all or part of the hydroxy groups of the cyclodextrin have been modified with a hydrophobic modifying group. The crosslinked polyrotaxanes are obtained by bonding the hydrophobically modified polyrotaxanes to a polymer through any of the cyclic mols. Thus, 10 g polyethylene glycol, 100 mg TEMPO, and 1 g sodium bromide were dissolved in 100 mL water, 5 mL 5% aqueous sodium hypochlorous acid solution was added therein and stirred at room temperature, 3 g of the resulting carboxy-terminated polyethylene glycol and 12 g  $\alpha$ -cyclodextrin were dissolved in 50 mL water at 70° and stirred, and stored at 4° overnight to give an inclusion compound, 14 g of which was dissolved in 20 mL a mixture of 75 volume% DMF and 25 volume% dimethylsulfoxide, benzotriazol-1-yloxytris(dimethylamino)phosphonium hexafluorophosphate 3, 1-hydroxybenzotriazole 1, and adamantane 1.4 g, and 1.25 mL diisopropylethylamin dissolved in 10 mL DMF was added therein and stirred, 500 mg of the resulting polyrotaxane was dissolved in 50 mL 1M aqueous sodium hydroxide solution, 3.83 g propylene oxide was added therein and stirred, and reacted with stannous 2-ethylhexanoate to give a hydrophobically-modified polyrotaxane, showing good solubility in toluene, Et acetate, and acetone.

IT 928148-55-4DP, reaction products with hydroxypropylated cyclodextrin-adamantane capped polyethylene glycol rotaxane compds.  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(hydrophobically modified polyrotaxanes with good solubility in organic solvents and crosslinked polyrotaxanes)

RN 928148-55-4 HCAPLUS

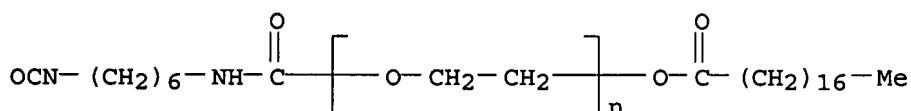
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[[[6-isocyanatohexyl)amino]carbonyl]- $\omega$ -[(1-oxooctadecyl)oxy]- (CA INDEX NAME)



IT 928148-55-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for cyclodextrin modification; hydrophobically modified polyrotaxanes with good solubility in organic solvents and crosslinked polyrotaxanes)

RN 928148-55-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[[[6-isocyanatohexyl)amino]carbonyl]- $\omega$ -[(1-oxooctadecyl)oxy]- (CA INDEX NAME)



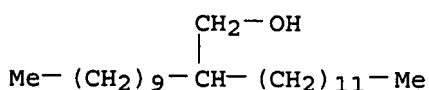
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:886291 HCAPLUS  
 DOCUMENT NUMBER: 145:277754  
 TITLE: Hair cosmetics containing di(long-chain)-type cationic  
 surfactants, hydrophobically  
 modified polyether-urethanes, and higher  
 alcohols  
 INVENTOR(S): Kinoshita, Koichi  
 PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006225318	A	20060831	JP 2005-40954	20050217
PRIORITY APPLN. INFO.:			JP 2005-40954	20050217

OTHER SOURCE(S): MARPAT 145:277754  
 AB The hair cosmetics contain (A) di(long-chain)-type cationic surfactants  
 [RaCO<sub>2</sub>(CH<sub>2</sub>)<sub>p</sub>]<sub>2</sub>N+Me[(CH<sub>2</sub>)<sub>p</sub>OH] X- [RaCO = C<sub>12</sub>-22 aliphatic acyl having 0-3  
 double bonds; p = 0-3; X = halo, methosulfate, methophosphate; when p = 0,  
 then (CH<sub>2</sub>)<sub>p</sub>OH becomes Me] and/or [(Rb)<sub>2</sub>N+(Rc)<sub>2</sub>] X- [Rb = C<sub>12</sub>-22 aliphatic  
 acyl having 0-3 double bonds; Rc = C<sub>1</sub>-3 aliphatic acyl not having double  
 bond; X = same as above] 0.01-10, (B) hydrophobically  
 modified polyether-urethanes R<sub>1</sub>[(OR<sub>2</sub>)kOCONHR<sub>3</sub>[NHCO<sub>2</sub>(R<sub>4</sub>)<sub>n</sub>R<sub>5</sub>]h]<sub>m</sub>  
 [R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub> = hydrocarbon residue; R<sub>3</sub> = hydrocarbon residue which may have  
 urethane bond; R<sub>5</sub> = linear, branched, or secondary hydrocarbon residue; m  
 ≥ 2; h ≥ 1; k, n = 0-1000] 0.01-10, and (C) higher alcs.  
 0.01-30 weight% (based on total cosmetics). A hair conditioner containing  
 Adekanol GT 700 (PEG-240/decyltetradeceth-20/HDI copolymer) 1.0,  
 dicocylethylhydroxyethylmonium methosulfate 2.8, stearyl alc. 2.0,  
 behenyl alc. 2.0, glutamic acid 0.01, sorbitol 15.0, propylene glycol 6.0,  
 octyl palmitate 1.0, dimethicone 3.5, antiseptic, and H<sub>2</sub>O to 100.0 weight%  
 showed good handling properties, hair-smoothing and -conditioning effects,  
 and no change in appearance after 3-mo storage at 40°, room temperature,  
 or 10°.  
 IT 916068-83-2  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (storage-stable hair conditioners with good handling properties, containing  
 di(long-chain) cationic surfactants, hydrophobically  
 modified polyether-urethanes, and higher alcs.)  
 RN 916068-83-2 HCAPLUS  
 CN Oxirane, polymer with 1,6-diisocyanatohexane and α-hydro-ω-  
 hydroxypoly(oxy-1,2-ethanediyl), 2-decyltetradecyl ether, block (CA INDEX  
 NAME)  
 CM 1  
 CRN 58670-89-6  
 CMF C24 H50 O

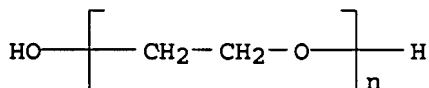


CM 2

CRN 875900-64-4  
 CMF (C8 H12 N2 O2 . (C2 H4 O)n H2 O . C2 H4 O)x  
 CCI PMS

CM 3

CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



CM 4

CRN 822-06-0  
 CMF C8 H12 N2 O2



CM 5

CRN 75-21-8  
 CMF C2 H4 O



L6 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:411163 HCAPLUS

DOCUMENT NUMBER: 146:231007

TITLE: Effect of copolymer composition on flow properties and film-forming of functionalised latex binders

AUTHOR(S): Snuparek, J.; Quadrat, O.

CORPORATE SOURCE: Institute of Polymeric Materials, University of Pardubice, Pardubice, 532 10, Czech Rep.

SOURCE: Surface Coatings International, Part B: Coatings Transactions (2006), 89(B1), 15-22  
 CODEN: SCIPDU; ISSN: 1476-4865

PUBLISHER: Oil & Colour Chemists' Association

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acrylic and styrene/acrylic latex binders comprising functional monomers such as acrylic acid, methacrylic acid, methacrylamide, Me methacrylate, and hydroxyethyl methacrylate in different concentration levels were synthesized. It was shown that the extent of particle swelling and the hydroplasticization of the alkali-swellable particles was affected by the polarity of the 'hard' comonomer. The effect of dissociated carboxylic groups on the increase in latex viscosity and on the lowering of its min. film-forming temperature was much more pronounced in the case of the Me methacrylate comonomer. The thickening of the latices with hydrophobe-modified ethylene oxide urethane (HEUR)

associative thickeners was considerably affected by the hydrophobicity of the particles. Thickening with hydrophobically-modified alkali-soluble emulsion (HASE) thickeners depends predominantly on the excluded volume of swollen thickener particles. The influence of the hydrophobic styrene content was negligible.

IT 431945-90-3, Butyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methylenebisacrylamide-styrene copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (shell; effect of copolymer composition on flow properties and film-forming of functionalised latex binders)

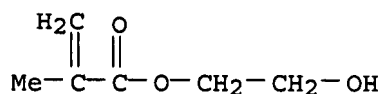
RN 431945-90-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-propenoate, ethenylbenzene, 2-hydroxyethyl 2-methyl-2-propenoate and N,N'-methylenebis[2-propenamide] (CA INDEX NAME)

CM 1

CRN 868-77-9

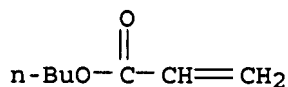
CMF C6 H10 O3



CM 2

CRN 141-32-2

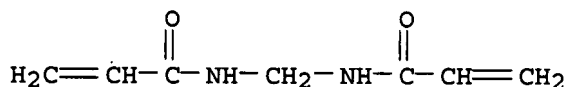
CMF C7 H12 O2



CM 3

CRN 110-26-9

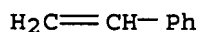
CMF C7 H10 N2 O2



CM 4

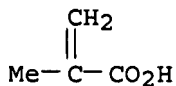
CRN 100-42-5

CMF C8 H8



CM 5

CRN 79-41-4  
CMF C4 H6 O2



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1078991 HCAPLUS

DOCUMENT NUMBER: 144:433565

TITLE: The property of hydrophobically modified poly-N-isopropylacrylamide and its dependence on the composition of solution  
AUTHOR(S): Lu, Zhi-yong; Liu, Qiang; Zhou, Li; Ni, An-hua; Zhang, Xi

CORPORATE SOURCE: The State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute of Sichuan University, Chengdu, 610065, Peop. Rep. China

SOURCE: Gaofenzi Cailiao Kexue Yu Gongcheng (2005), 21(4), 160-163,167

CODEN: GCKGEI; ISSN: 1000-7555

PUBLISHER: Gaofenzi Cailiao Kexue Yu Gongcheng Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB In order to prepare the polymer material more sensitive to the stimulated signal, and explore the relation between polymer structure and properties at different environmental condition, hydrophobically modified poly-N-isopropylacrylamide (PNIPA) hydrogels: poly (N-isopropylacrylamide-co-Me acrylate/ethyl acrylate/butyl acrylate/dodecyl acrylate) was synthesized by free micellar copolymerization in aqueous solutions. The swelling behavior of the hydrophobically modified PNIPA hydrogels and the PNIPA hydrogels in the various aqueous solution such as deionized water, sodium chloride, sodium sulfate and grain alcohol at different temperature were studied. The results show that the swelling behaviors of the polymer hydrogels in the aqueous solution are related to the chemical structure of the hydrogels, temperature and the category and content of solute in the aqueous solution. Poly(N-isopropylacrylamide-co-Me acrylate) hydrogels have excellent sensitivity of temperature and sensitivity of solute concentration in the hydrogels studied. When the inorganic salt is added to the deionized water, the swelling ratio of hydrogels decreases, and the sensitivity of temperature reduces; when a little grain alcohol is added to the deionized water, the swelling ratio of hydrogels decreases obviously; However, when a great deal of grain alcohol is added to the deionized water, the swelling ratio increases in reverse.

IT 679802-70-1P 679802-71-2P 679802-72-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(property of hydrophobically modified poly(isopropylacrylamide) and its dependence on composition of solution)

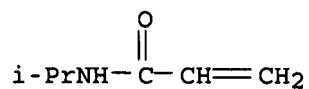
RN 679802-70-1 HCAPLUS

CN 2-Propenoic acid, ethyl ester, polymer with N,N'-methylenebis[2-propenamide] and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5  
CMF C6 H11 N O

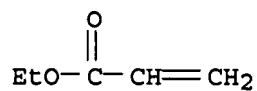




CM 2

CRN 140-88-5

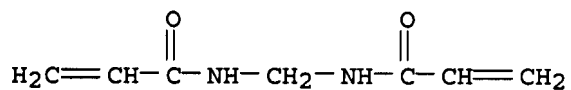
CMF C5 H8 O2



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



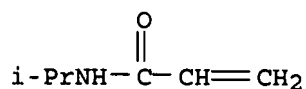
RN 679802-71-2 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with N,N'-methylenebis[2-propenamide] and N-(1-methylethyl)-2-propenamide (CA INDEX NAME)

CM 1

CRN 2210-25-5

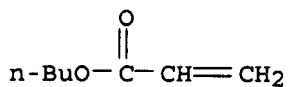
CMF C6 H11 N O



CM 2

CRN 141-32-2

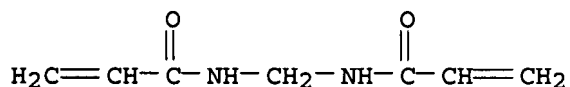
CMF C7 H12 O2



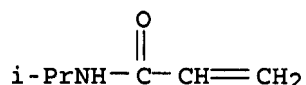
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CRN 110-26-9

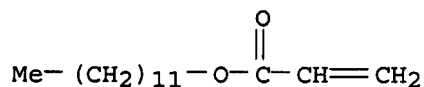
CMF C7 H10 N2 O2



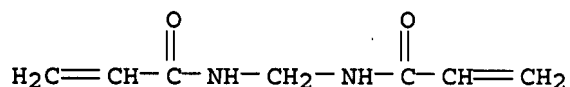
RN 679802-72-3 HCAPLUS  
 CN 2-Propenoic acid, dodecyl ester, polymer with N,N'-methylenebis[2-propenamides] and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 2210-25-5  
 CMF C6 H11 N O



CM 2  
 CRN 2156-97-0  
 CMF C15 H28 O2



CM 3  
 CRN 110-26-9  
 CMF C7 H10 N2 O2



L6 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:272059 HCAPLUS  
 DOCUMENT NUMBER: 144:88833  
 TITLE: Hydrophobically modified acrylamide-based hydrogels  
 AUTHOR(S): Cram, Sandra; Brown, Hugh; Spinks, Geoffrey M.; Hourdet, Dominique; Creton, Costantino  
 CORPORATE SOURCE: BlueScope Steel Institute, Univ. of Wollongong, NSW 2522, Australia  
 SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2005), 5648(Smart Materials III), 153-162  
 CODEN: PSISDG; ISSN: 0277-786X  
 PUBLISHER: SPIE-The International Society for Optical Engineering  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The synthesis of acrylamide based hydrogels incorporating a small

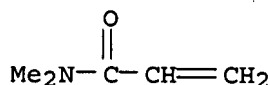
proportion of hydrophobic functional groups results in a hydrogel structure with improved mech. properties. In particular increased mech. toughness and tensile strength while maintaining a relatively high swelling ratio. A method of increasing toughness has been developed by introducing a number of long alkyl chain hydrophobic groups into the hydrophilic structure. These hydrophobic groups create domains of densely clustered polymer chains within the highly swollen hydrogel matrix. Single edged notch tensile tests demonstrate a significant increase in fracture energy when the hydrophobes are able to interact in aqueous solns. compared to gels swollen in organic solvents in which the hydrophobes act independently. Therefore it is speculated that these domains increase energy dissipation around the crack tip during fracture causing an increase in mech. toughness.

IT 872356-21-3P, Dodecyl acrylate-N,N-dimethylacrylamide-methylenebisacrylamide copolymer  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and properties of hydrophobically modified acrylamide-based copolymer hydrogels)  
 RN 872356-21-3 HCAPLUS  
 CN 2-Propenoic acid, dodecyl ester, polymer with N,N-dimethyl-2-propenamide and N,N'-methylenebis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

CRN 2680-03-7

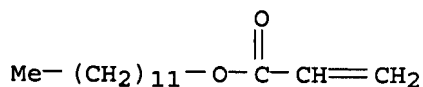
CMF C5 H9 N O



CM 2

CRN 2156-97-0

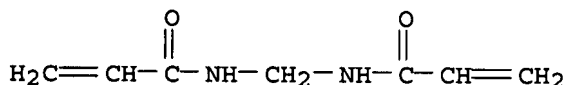
CMF C15 H28 O2



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:5018 HCAPLUS  
 DOCUMENT NUMBER: 142:262049

TITLE: Effect of the Mobility of Charged Units on the Microphase Separation in Amphiphilic Polyelectrolyte Hydrogels

AUTHOR(S): Andreeva, Assol S.; Philippova, Olga E.; Khokhlov, Alexei R.; Islamov, Akhmed Kh.; Kuklin, Alexander I.

CORPORATE SOURCE: A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Moscow, 119991, Russia

SOURCE: Langmuir (2005), 21(4), 1216-1222  
CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effect of the migration of charged units on the structure of hydrophobically modified polyelectrolyte gels swollen by D2O was studied by small-angle neutron scattering on an example of gels of terpolymers of acrylic acid, n-dodecyl acrylate, and 2-acrylamido-2-methyl-1-propanesulfonic acid (quenched charged units) and gels of copolymers of partially neutralized acrylic acid and n-dodecyl acrylate (annealed charged units). The content of charged units did not exceed 20 mol%, so that the electrostatic repulsion was too weak to disrupt the hydrophobic domains formed by self-assembled n-dodecyl chains, which was evidenced by NMR data. It was shown that upon increasing the charge content both types of gels undergo microphase separation with the formation of hydrophobic clusters consisting of several densely packed hydrophobic domains and hydrophilic regions swollen by water, where most of the charged repeat units and counterions are located. The dimensions of the nanostructure of the gels with quenched and annealed charged groups were compared. It was shown that the size of clusters in the gels with annealed charged units is much bigger than that in the gels with the same fraction of quenched charged units. This effect was attributed to a much weaker electrostatic repulsion in the corona of the hydrophobic clusters in the gels with annealed charged groups, because the charged units repelling each other are able to move farther apart.

IT 846595-54-8P 846595-55-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(effect of mobility of charged units on microphase separation in amphiphilic polyelectrolyte hydrogels)

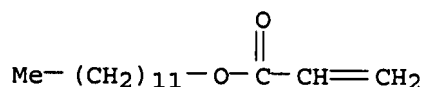
RN 846595-54-8 HCAPLUS  
CN 2-Propenoic acid, polymer with dodecyl 2-propenoate and  
N,N'-methylenebis[2-propenamide], sodium salt (9CI) (CA INDEX NAME)

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CRN 173614-47-6  
CMF (C15 H28 O2 . C7 H10 N2 O2 . C3 H4 O2)x  
CCI PMS

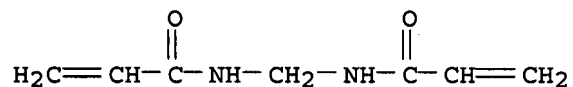
CM 2

CRN 2156-97-0  
CMF C15 H28 O2



CM 3

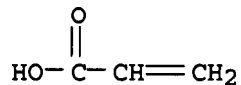
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CMF C7 H10 N2 O2



CM 4

CRN 79-10-7

CMF C3 H4 O2



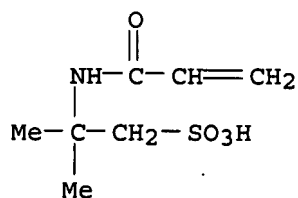
RN 846595-55-9 HCAPLUS

CN 2-Propenoic acid, polymer with dodecyl 2-propenoate, N,N'-methylenebis[2-propenamide] and 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid monosodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 5165-97-9

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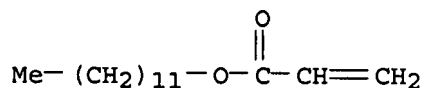


● Na

CM 2

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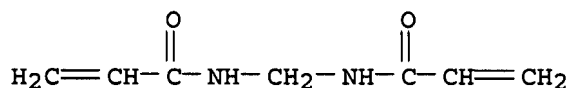
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CM 3

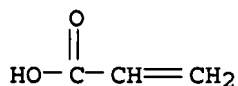
CRN 110-26-9

CMF C7 H10 N2 O2



CM 4

CRN 79-10-7  
CMF C3 H4 O2



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:815535 HCAPLUS

DOCUMENT NUMBER: 142:240756

TITLE: Novel hydrophobically modified temperature-sensitive microgels with tunable volume-phase transition temperature

AUTHOR(S): Ma, Xiaomei; Xi, Jingyu; Huang, Xiaobin; Zhao, Xian; Tang, Xiaozhen

CORPORATE SOURCE: School of Chemistry and Chemical Technology, Shanghai Jiaotong University, Shanghai, 200240, Peop. Rep. China

SOURCE: Materials Letters (2004), 58(27-28), 3400-3404  
CODEN: MLETDJ; ISSN: 0167-577X

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Iso-Pr methacrylate (iPMA) was selected to copolymerize with N-isopropylacrylamide (NIPAM) for synthesizing temperature-sensitive microgels. The aim of this study was to extend the application range of temperature-sensitive microgels by preparing thermosensitive microgels and tuning their volume-phase transition temperature (VPTT) through changing the content of the hydrophobic comonomers. Preliminary investigations by dynamic light scattering (DLS) and turbidimetric anal. show that the VPTTs of the pNIPAM microgels can be successfully tuned via changing the incorporation content of the hydrophobic iPMA.

IT 845509-76-4P, N-Isopropylacrylamide-isopropyl methacrylate-N,N'-methylenebisacrylamide copolymer

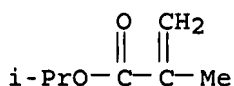
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(novel hydrophobically modified temperature-sensitive microgels with tunable volume-phase transition temperature)

RN 845509-76-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methylethyl ester, polymer with N,N'-methylenebis[2-propenamide] and N-(1-methylethyl)-2-propenamide (9CI)  
(CA INDEX NAME)

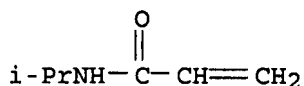
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CRN 4655-34-9  
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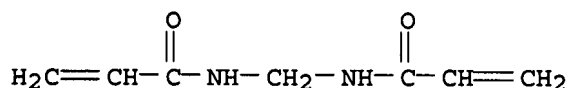
CM 2

CRN 2210-25-5  
CMF C6 H11 N O



CM 3

CRN 110-26-9  
CMF C7 H10 N2 O2



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:211528 HCAPLUS

DOCUMENT NUMBER: 141:7496

TITLE: Syntheses of hydrophobically modified cationic hydrogels by copolymerization of alkyl substituted diallylamine monomers and their use as bile acid sequestrants

AUTHOR(S): Huval, Chad C.; Holmes-Farley, S. Randall; Mandeville, W. Harry; Sacchiero, Robert; Dhal, Pradeep K.

CORPORATE SOURCE: Drug Discovery and Development, Genzyme Corporation, Waltham, MA, 02451, USA

SOURCE: European Polymer Journal (2004), 40(4), 693-701  
CODEN: EUPJAG; ISSN: 0014-3057

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel class of cationic hydrogels bearing cyclic structures along the polymer backbone was prepared and these hydrogels have been evaluated as bile acid sequestrants in vivo. The polymeric gels were prepared by crosslinking cyclocopolymn. of hydrophobically modified dialkyldiallylammmonium salts in the presence of different multifunctional crosslinking monomers. The roles of various crosslinking monomers, concns. of crosslinking monomers, as well as alkyl chain length of dialkyldiallylammmonium monomers on the physicochem. properties of the resulting hydrogels have been evaluated. From these preliminary in-vivo studies it appears that these cationic hydrogels are excellent bile acid sequestrants and promising cholesterol lowering agents.

IT 694472-41-8DP, ion exchanged with Cl- 694472-41-8P  
694472-42-9DP, ion exchanged with Cl- 694472-42-9P  
694472-45-2P 694472-47-4P 694472-57-6P  
694472-59-8P 694472-61-2P 694472-63-4P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(syntheses and physicochem. properties of hydrophobically modified cationic hydrogels of crosslinked alkyldiallylamine as bile acid sequestrants)

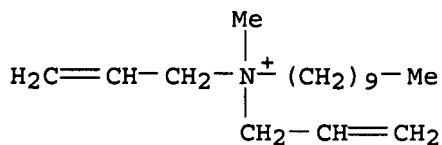
RN 694472-41-8 HCAPLUS

CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

CRN 69419-77-8

CMF C17 H34 N . Br

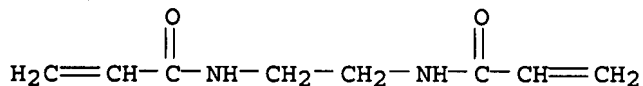


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CRN 2956-58-3

CMF C8 H12 N2 O2



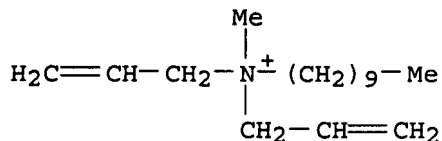
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CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

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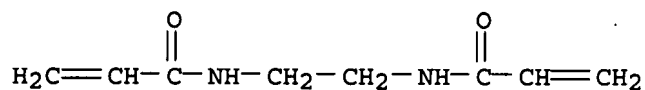


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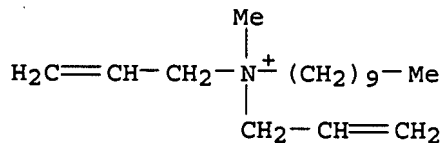


RN 694472-42-9 HCAPLUS

CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX  
NAME)

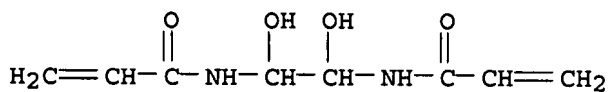
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CRN 69419-77-8  
CMF C17 H34 N . Br

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CM 2

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CMF C8 H12 N2 O4

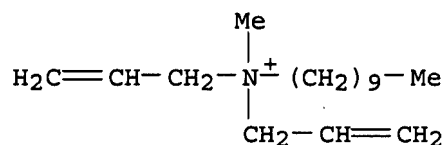


RN 694472-42-9 HCAPLUS

CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX  
NAME)

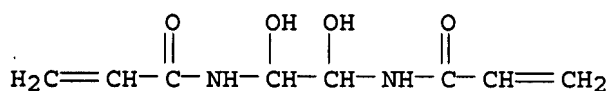
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CMF C17 H34 N . Br

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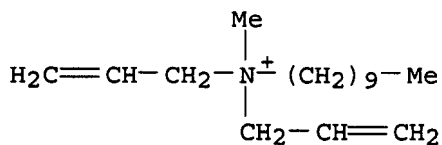
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CMF C8 H12 N2 O4



RN 694472-45-2 HCAPLUS  
CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-1,6-hexanediylbis[2-methyl-2-propenamide] (9CI) (CA INDEX NAME)

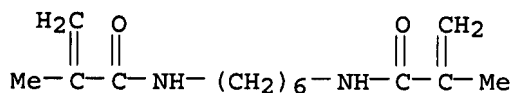
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CRN 69419-77-8  
CMF C17 H34 N . Br

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CM 2

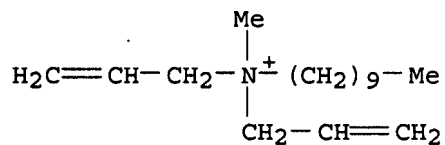
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CMF C14 H24 N2 O2



RN 694472-47-4 HCAPLUS  
CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-1,2-ethanediylbis[2-methyl-2-propenamide] (9CI) (CA INDEX NAME)

CM 1

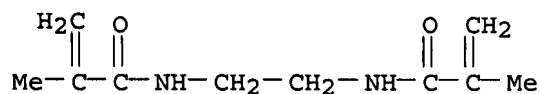
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CMF C17 H34 N . Br



● Br<sup>-</sup>

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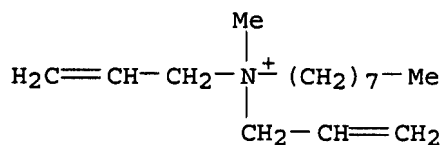
CRN 6117-25-5  
CMF C10 H16 N2 O2



RN 694472-57-6 HCAPLUS  
CN 1-Octanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

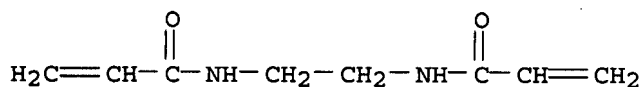
CRN 69419-86-9  
CMF C15 H30 N . Br



● Br<sup>-</sup>

CM 2

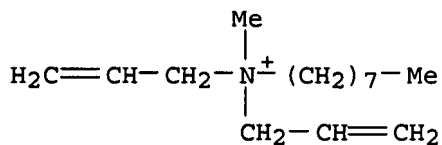
CRN 2956-58-3  
CMF C8 H12 N2 O2



RN 694472-59-8 HCAPLUS  
 CN 1-Octanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
 N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX  
 NAME)

CM 1

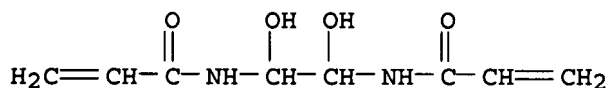
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 CMF C15 H30 N . Br



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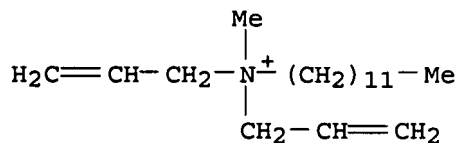
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 CMF C8 H12 N2 O4



RN 694472-61-2 HCAPLUS  
 CN 1-Dodecanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
 N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

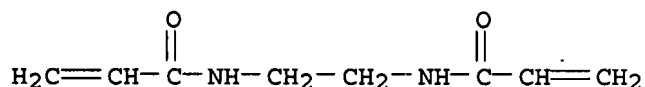
CRN 41454-28-8  
 CMF C19 H38 N . Br



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CRN 2956-58-3  
 CMF C8 H12 N2 O2



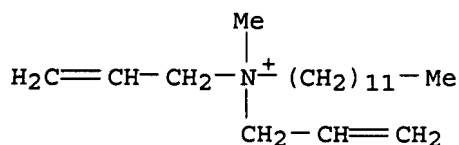
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CN 1-Dodecanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

CRN 41454-28-8

CMF C19 H38 N . Br

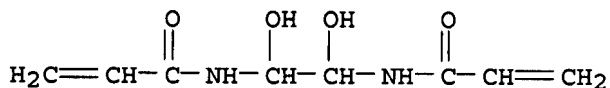


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CM 2

CRN 868-63-3

CMF C8 H12 N2 O4



IT 694472-45-2DP, ion exchanged with Cl- 694472-47-4DP, ion exchanged with Cl- 694472-57-6DP, ion exchanged with Cl- 694472-59-8DP, ion exchanged with Cl- 694472-61-2DP, ion exchanged with Cl- 694472-63-4DP, ion exchanged with Cl-  
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (syntheses and physicochem. properties of hydrophobically modified cationic hydrogels of crosslinked alkyldiallylamine as bile acid sequestrants)

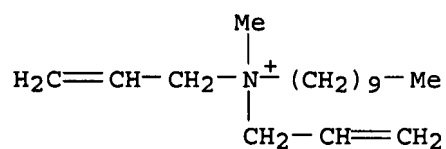
RN 694472-45-2 HCAPLUS

CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with N,N'-1,6-hexanediylbis[2-methyl-2-propenamide] (9CI) (CA INDEX NAME)

CM 1

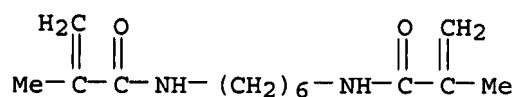
CRN 69419-77-8

CMF C17 H34 N . Br

● Br<sup>-</sup>

CM 2

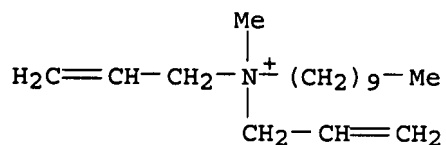
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CMF C14 H24 N2 O2



RN 694472-47-4 HCAPLUS  
CN 1-Decanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-1,2-ethanediylbis[2-methyl-2-propenamide] (9CI) (CA INDEX NAME)

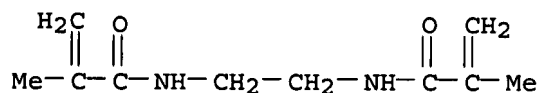
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CMF C17 H34 N . Br

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CM 2

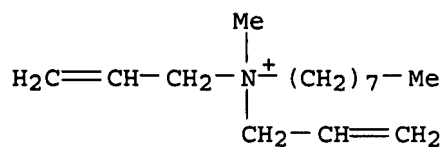
CRN 6117-25-5  
CMF C10 H16 N2 O2



RN 694472-57-6 HCAPLUS  
CN 1-Octanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

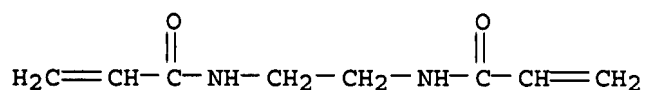
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CMF C15 H30 N . Br



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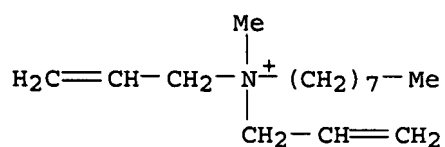
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CMF C8 H12 N2 O2



RN 694472-59-8 HCAPLUS  
CN 1-Octanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX  
NAME)

CM 1

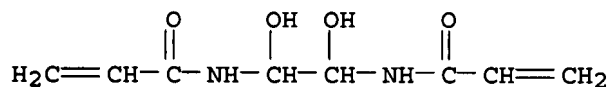
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CMF C15 H30 N . Br



● Br<sup>-</sup>

CM 2

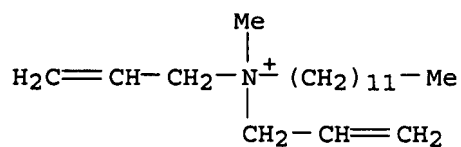
CRN 868-63-3  
CMF C8 H12 N2 O4



RN 694472-61-2 HCAPLUS  
 CN 1-Dodecanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
 N,N'-1,2-ethanediylbis[2-propenamide] (9CI) (CA INDEX NAME)

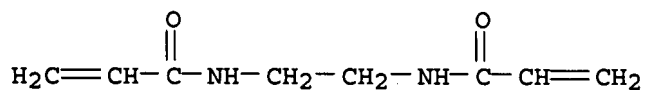
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 CMF C19 H38 N . Br



CM 2

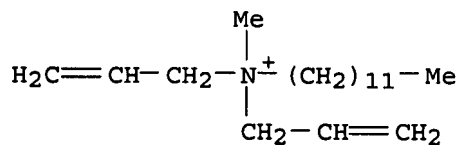
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 CMF C8 H12 N2 O2



RN 694472-63-4 HCAPLUS  
 CN 1-Dodecanaminium, N-methyl-N,N-di-2-propenyl-, bromide, polymer with  
 N,N'-(1,2-dihydroxy-1,2-ethanediyl)bis[2-propenamide] (9CI) (CA INDEX  
 NAME)

CM 1

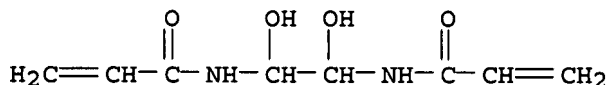
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 CMF C19 H38 N . Br



CM 2

CRN 868-63-3  
 CMF C8 H12 N2 O4





REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:74349 HCAPLUS

DOCUMENT NUMBER: 140:340013

TITLE: Synthesis of hydrophobically modified hydrogels with acrylates and swelling behavior of hydrogels in the solutions of surfactants

AUTHOR(S): Liu, Qiang; Zhang, Xi; Liang, Bing; Li, Qin

CORPORATE SOURCE: The State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute of Sichuan University, Chengdu, 610065, Peop. Rep. China

SOURCE: Gaofenzi Cailiao Kexue Yu Gongcheng (2004), 20(1), 79-82

CODEN: GCKGEI; ISSN: 1000-7555

PUBLISHER: Gaofenzi Cailiao Kexue Yu Gongcheng Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Poly-N-isopropylacrylamide (PNIPA) hydrogels and hydrophobically modified PNIPAA, Poly-N-isopropylacrylamide-co-Me acrylate/ethyl acrylate/ Bu acrylate/dodecyl acrylate hydrogels, were synthesized resp. by free radical polymerization and free micellar copolymerization in aqueous solution. The microstructure of and the different swelling behaviors of hydrogels with various structures in surfactant solutions were studied. The results show that the hydrophobically modified PNIPAA and PNIPAA are different in microstructures, which are due to the diversity in compatibility. Moreover, the hydrophobically modified hydrogels (HMH) have greater swelling ratio and temperature sensitivity in aqueous solutions of the anionic surfactant sodium dodecyl sulfate (SDS) and the cationic surfactant cetyltrimethylammonium bromide (CTAB). The swelling behaviors of HMH relate to its chemical structure and solution components as well. With the increasing in carbon atom number of acrylate, the swelling ratio of the HMH by this paper decreases. Furthermore, the synthesized HMH have a higher transforming temperature and a wider abrupt changing interval in SDS solution than in CTAB solution

IT 679802-70-1P 679802-71-2P 679802-72-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis of hydrophobically modified hydrogels with acrylates and swelling behavior in solutions of surfactants)

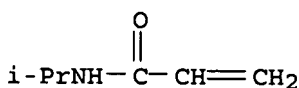
RN 679802-70-1 HCAPLUS

CN 2-Propenoic acid, ethyl ester, polymer with N,N'-methylenebis[2-propenamide] and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

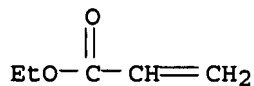
CRN 2210-25-5

CMF C6 H11 N O



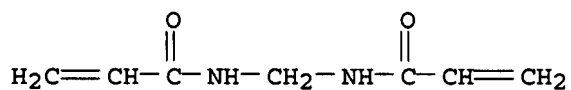
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CRN 140-88-5  
CMF C5 H8 O2



CM 3

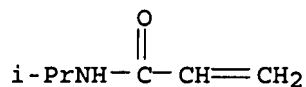
CRN 110-26-9  
CMF C7 H10 N2 O2



RN 679802-71-2 HCAPLUS  
CN 2-Propenoic acid, butyl ester, polymer with N,N'-methylenebis[2-propenamidel] and N-(1-methylethyl)-2-propenamide (CA INDEX NAME)

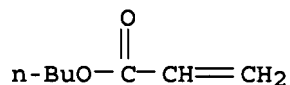
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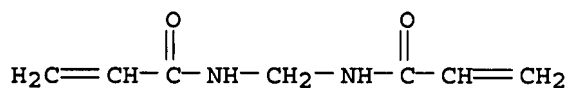
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CRN 141-32-2  
CMF C7 H12 O2



CM 3

CRN 110-26-9  
CMF C7 H10 N2 O2

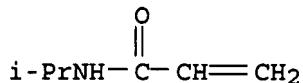


RN 679802-72-3 HCAPLUS  
CN 2-Propenoic acid, dodecyl ester, polymer with N,N'-methylenebis[2-

propenamide] and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

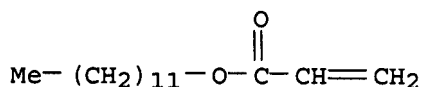
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CRN 2210-25-5  
CMF C6 H11 N O



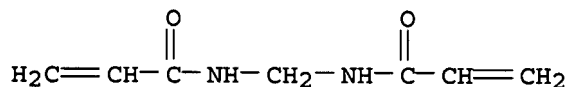
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CRN 2156-97-0  
CMF C15 H28 O2



CM 3

CRN 110-26-9  
CMF C7 H10 N2 O2



L6 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:833282 HCAPLUS

DOCUMENT NUMBER: 140:424189

TITLE: Rheological properties of mixtures based on poly(N-isopropylacrylamide) ; influence of fluorocarbon modified poly(ethylene glycols)

AUTHOR(S): Samichkov, V.; Ivanov, Ya.; Berlinova, I.; Nedelcheva, A.

CORPORATE SOURCE: Central Laboratory of Physico-Chemical Mechanics, Bulgarian Academy of Sciences, Sofia, 1113, Bulg.

SOURCE: Journal of the University of Chemical Technology and Metallurgy (2002), 37(1), 117-124  
CODEN: JUCTB3; ISSN: 1311-7629

PUBLISHER: University of Chemical Technology and Metallurgy

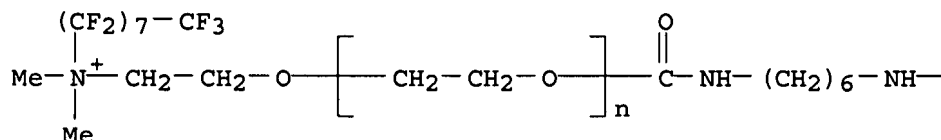
DOCUMENT TYPE: Journal

LANGUAGE: English

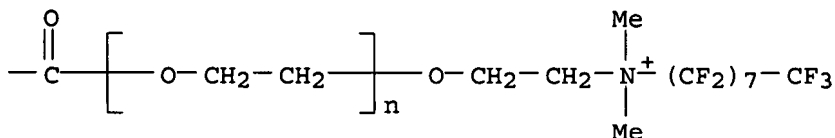
AB The present work relates to the investigation of rheol. properties of poly(N-isopropylacrylamide), as well its mixts. with poly(ethylene glycol) containing fluoroalkyl end groups. It has been studied the influence of chain length and structure of hydrophobic modified poly(ethylene glycol) on the thermo-associative process between both polymers. It is found, that the addition of hydrophobic modified poly(ethylene glycol) leads to the appearance of significant elastic properties of the mixture, a result of transition from a viscous sol to an elastic gel, and hinder the phase-separation of

poly(N-isopropylacrylamide).  
 IT 497956-14-6  
 RL: PRP (Properties)  
 (rheol. properties of mixts. based on poly(N-isopropylacrylamide) with  
 fluorocarbon modified poly(ethylene glycols))  
 RN 497956-14-6 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha, \alpha'$ -[1,6-  
 hexanediylbis(iminocarbonyl)]bis[ $\omega$ -[2-[(heptadecafluorooctyl)dimethy  
 lammonio]ethoxy]-, diiodide (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 I<sup>-</sup>

PAGE 1-B



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2003:93135 HCAPLUS  
 DOCUMENT NUMBER: 138:138871  
 TITLE: Use of hydrophobically modified  
 oligopeptides as thickening agents  
 INVENTOR(S): Edelmann, Dirk  
 PATENT ASSIGNEE(S): Germany  
 SOURCE: Ger. Offen., 6 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10136950	A1	20030206	DE 2001-10136950	20010728
PRIORITY APPLN. INFO.:			DE 2001-10136950	20010728
OTHER SOURCE(S): MARPAT 138:138871				

AB Hydrophobically modified oligopeptides  
 $\text{R}_2\text{NH}(\text{COCR}_3\text{R}_4\text{NHCOCR}_5\text{R}_6\text{NH})_n\text{COZR}_1$  [ $\text{R}_1$ ,  $\text{R}_2$  = H,  $\text{C}_6$ -24 alkyl,  $\text{C}_5$ -10 cycloalkyl,  
 aryl;  $\text{R}_1 \neq \text{R}_2$  = H;  $\text{R}_3$ - $\text{R}_6$  = H, Me, Et,  $\text{Me}_2\text{CH}$ , Bu,  $\text{Me}_2\text{CHCH}_2$  (with  
 provisos); Z = O, NH,  $\text{CH}_2$ ; n = 1-10, preferably 1 or 2], thickening agents  
 that can be used as self-standing additives in water-thinned coatings,  
 plasters, pastes, cosmetic preps. or similar systems, as opposed to the  
 com. associatively working urethane-containing thickeners that require  
 pre-dilution in  $\text{H}_2\text{O}$  and/or solvents, or preliminary emulsification. For

example, a glossy coating composition comprising AMP 90 2.5, Borchigen ND (25% in H<sub>2</sub>O) 27.2, Borchigen DFN 5.0, defoamer (Neocryl AP 2860) 3.2, TiO<sub>2</sub> 225.0, methoxybutanol 17.0, propylene glycol 17.0, Bu diglycol 7.0, H<sub>2</sub>O 44.7, NeoCryl XK-62 540.0, H<sub>2</sub>O 110.0 and N-stearylureido-L-alanyl-L-alanine dodecylamide thickener 2.0 g had viscosity 35,000 mPa·s, vs. 20,000 mPa·s for similar dispersion containing 8.0 g Borchigel L 75N as thickener.

IT 494209-27-7 494209-28-8 494209-29-9

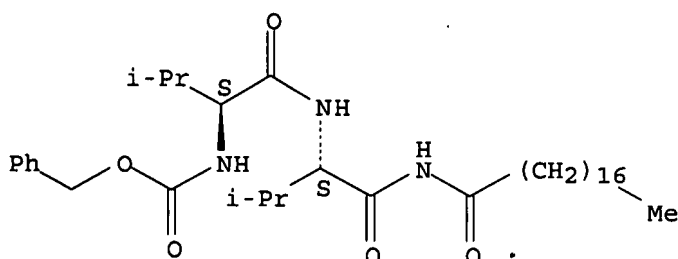
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(use of hydrophobically modified oligopeptides as thickening agents)

RN 494209-27-7 HCAPLUS

CN L-Valinamide, N-[(phenylmethoxy)carbonyl]-L-valyl-N-(1-oxooctadecyl)- (9CI) (CA INDEX NAME)

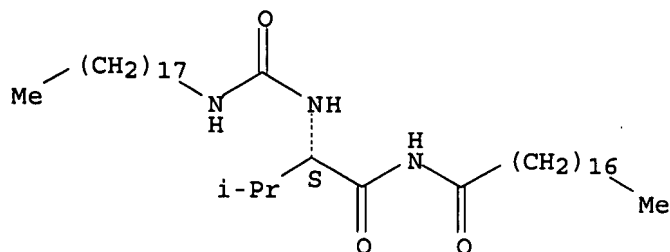
Absolute stereochemistry.



RN 494209-28-8 HCAPLUS

CN Octadecanamide, N-[(2S)-3-methyl-2-[[[(octadecylamino)carbonyl]amino]-1-oxobutyl]- (9CI) (CA INDEX NAME)

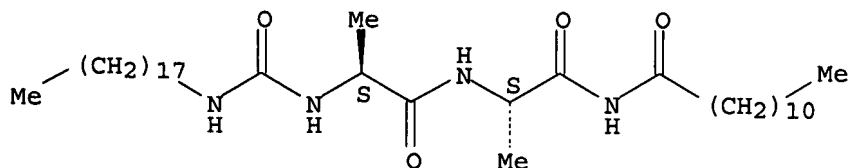
Absolute stereochemistry.



RN 494209-29-9 HCAPLUS

CN L-Alaninamide, N-[(octadecylamino)carbonyl]-L-alanyl-N-(1-oxododecyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L6 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2002:585132 HCAPLUS

DOCUMENT NUMBER: 138:373996  
 TITLE: Rapid swelling and deswelling of thermoreversible hydrophobically modified poly(N-isopropylacrylamide) hydrogels prepared by freezing polymerization  
 AUTHOR(S): Xue, Wei; Hamley, Ian W.; Huglin, Malcolm B.  
 CORPORATE SOURCE: School of Chemistry, University of Leeds, Leeds, LS2 9JT, UK  
 SOURCE: Polymer (2002), 43(19), 5181-5186  
 CODEN: POLMAG; ISSN: 0032-3861  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

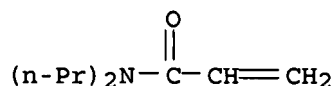
AB Rapid response thermally sensitive hydrophobically modified poly(N-isopropylacrylamide) hydrogels have been synthesized successfully using a two-step polymerization method, the initial polymerization being carried out at 20 °C, followed by polymerization at -28 °C for 24 h. The results show that the swelling/deswelling rates of poly[N-isopropylacrylamide-co-(di-n-propylacrylamide)] P(NIPA-co-DPAM) hydrogels prepared by two-step polymerization are much faster than for the same type of hydrogels prepared via conventional methods (30 °C for 24 h), i.e. the time for the former xerogel to absorb 70 and 90 wt% is just 30 and 240 min, resp., compared to the latter xerogel which takes 1600 and 2500 min to absorb the same amts. of water. During deswelling (shrinking), the hydrogel loses 95 wt% water in 1 min, compared to a timescale for the corresponding cross-linked copolymers prepared by conventional methods of about 5 h for 50 wt% water loss. SEM, and flotation expts. together with swelling ratio studies reveal that the polymeric network of the former hydrogel is characterized by an open structure with more pores and higher swelling ratio but lower mech. strength compared to the latter hydrogels. Such rapid response hydrogels have potential applications in separation and drug release technologies for example.

IT 439810-03-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (rapid swelling and deswelling of thermoreversible hydrophobically modified poly(N-isopropylacrylamide) hydrogels prepared by freezing polymerization)  
 RN 439810-03-4 HCAPLUS  
 CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-dipropyl-2-propenamide and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 68404-19-3

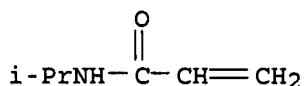
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CM 2

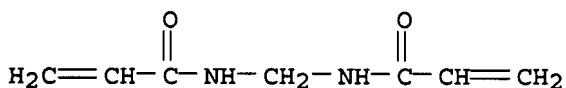
CRN 2210-25-5

CMF C6 H11 N O



CM 3

CRN 110-26-9  
CMF C7 H10 N2 O2



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

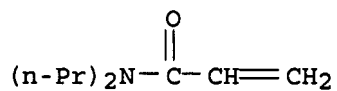
L6 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2002:249014 HCAPLUS  
 DOCUMENT NUMBER: 137:63761  
 TITLE: Thermo-reversible swelling behavior of hydrogels based on N-isopropylacrylamide with a hydrophobic comonomer  
 AUTHOR(S): Xue, Wei; Hamley, Ian W.  
 CORPORATE SOURCE: Department of Chemistry, University of Leeds, Leeds, LS2 9JT, UK  
 SOURCE: Polymer (2002), 43(10), 3069-3077  
 CODEN: POLMAG; ISSN: 0032-3861  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Hydrogels were prepared by free radical polymerization in aqueous solution of N-isopropylacrylamide (NIPA) and of NIPA with di-n-propylacrylamide, di-n-octyl-acrylamide or di-dodecyl-acrylamide as hydrophobic comonomer. N,N-methylene bisacrylamide (BIS) and glyoxal bis(diallyl acetal) (GLY) were used as crosslinker. A series of copolymers with three different comonomer contents was synthesized and for some polymers three different crosslinker concns. were employed. The swelling equilibrium of these hydrogels was studied as a function of temperature, hydrophobic comonomer species and content in aqueous solns. of the anionic surfactant sodium dodecyl sulfate (SDS). In pure water the gels showed a discontinuous volume phase transition at 33 and 30 °C for PNIPA and hydrophobically modified PNIPA co-polymeric hydrogels, resp. The swelling ratio r and the transition temperature increased at low temps. with the addition of SDS, this is ascribed to the conversion of non-ionic PNIPA gels into polyelectrolyte gels through the binding of SDS. At SDS concentration below 0.5 wt%, gels exhibited a single discontinuous volume transition at 36-38 °C. However, for SDS concentration above 0.5 wt%, two discontinuous volume transitions at 36-40 and 70 °C were observed. Addnl., the replacement of BIS by the novel octa-functional crosslinker glyoxal bis(diallyl acetal) (GLY) yielded an increase in the swelling ratio.

IT 439810-03-4P 439810-04-5P 439810-05-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (thermo-reversible swelling of hydrogels based on N-isopropylacrylamide with a hydrophobic comonomer)  
 RN 439810-03-4 HCAPLUS  
 CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-dipropyl-2-propenamide and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

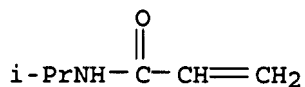
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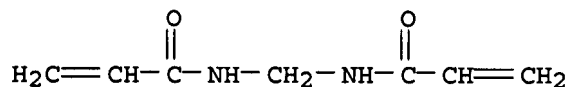
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CMF C6 H11 N O



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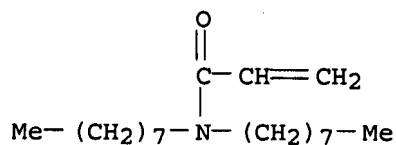
CRN 110-26-9  
CMF C7 H10 N2 O2



RN 439810-04-5 HCAPLUS  
CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-dioctyl-2-propenamide and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

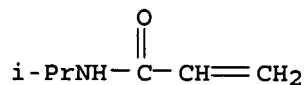
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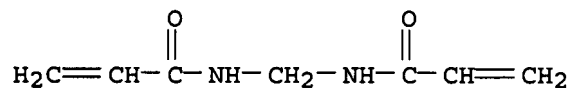
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CMF C6 H11 N O





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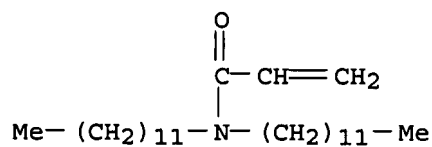


RN 439810-05-6 HCAPLUS

CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-didodecyl-2-propenamide and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)

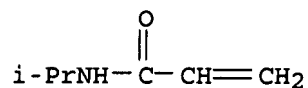
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CMF C27 H53 N O



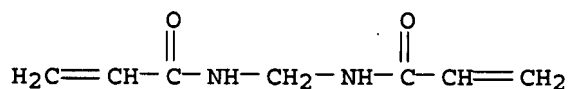
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CRN 2210-25-5  
CMF C6 H11 N O



CM 3

CRN 110-26-9  
CMF C7 H10 N2 O2



L18 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:638623 HCAPLUS  
 DOCUMENT NUMBER: 147:11135  
 TITLE: Glass fiber binders containing water-based dispersions  
 of polyurethane-ureas  
 INVENTOR(S): Kon, Shigeto  
 PATENT ASSIGNEE(S): Sanyo Chemical Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007145609	A	20070614	JP 2005-338126	20051124
PRIORITY APPLN. INFO.:			JP 2005-338126	20051124

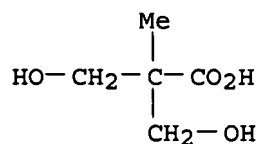
AB The polyurethane-ureas (U) of the binders satisfy (1) NCO-terminated urethane prepolymers (A) for preparation of U are prepared by reacting polyols (A1) with Mn 500-4,000, polyols (A2) bearing carboxyl or epoxy groups and with Mn  $\geq 100$  and  $< 500$ , and polyisocyanates (A3), (2) U are prepared by dispersing A in water in the presence of emulsifiers (B) and, simultaneously or followed by chain-extending reaction with water and/or polyamines, and (3) the content of carboxyl or epoxy groups based on the weight of U is 0.1-1.2%. Preferably, the glass fiber binders further contain coupling agents, antistatic agents, lubricants, heat stabilizers, weather stabilizers, antifoaming agents, and/or preservatives. Thus, polyethylene glycol (Mn 20,000) 90, polyoxyethylenepolyoxypropylene glycol (ethylene oxide adduct of polypropylene glycol, Mn 8500) 77, polytetramethylene ether glycol (Mn 1000), and TDI 2.2 parts were reacted at 160° to give an emulsifier (B1-1) with HLB 173, SP value of the hydrophilic group (polyoxypropylene group and polyoxytetramethylene group) 8.7 and 9.0, resp., Mw 95,000, and average number of polyoxypropylene group and polyoxytetramethylene group 2.1 and 0.7, resp. Then, 100 parts 100:3:36 poly(butylene adipate) diol-dimethylolpropionic acid-HDI copolymer urethane prepolymer (carboxyl group content 0.7%, NCO content 5.6%, SP value 10.6) was mixed with 3 parts B1-1, 6 parts ethoxylated styrenic (2 mol) phenol (HLB 12.3, Mw 900, SP value of the hydrophobic group 10.3), and 30 parts H2O simultaneously, mixed and dispersed, diluted with 150 parts H2O, mixed with 50 parts H2O containing 3 parts ethylenediamine and 0.3 part n-butylamine, and stirred at 60° to give a 32.5%-solid water-based dispersion with good mech. stability. Glass fibers was applied with the binders (12%), stranded, and chopped to give chopped strand, 30 parts of which was mixed with 70 parts nylon 66, kneaded, pelletized, and injection-molded to give JIS K 7062 test piece having Izod impact strength 13.1 kJ/m2.

IT 874161-20-3P, Dimethylolpropionic acid-ethylenediamine-HDI-poly(butylene adipate) diol copolymer  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (assumed and actual monomers; glass fiber binders containing water-based dispersions of polyurethane-ureas)

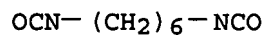
RN 874161-20-3 HCAPLUS  
 CN Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 1,2-ethanediamine and 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid (9CI) (CA INDEX NAME)

CM 1

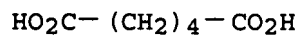
CRN 4767-03-7  
 CMF C5 H10 O4



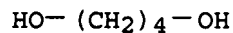
CM 2

CRN 822-06-0  
CMF C8 H12 N2 O2

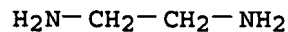
CM 3

CRN 124-04-9  
CMF C6 H10 O4

CM 4

CRN 110-63-4  
CMF C4 H10 O2

CM 5

CRN 107-15-3  
CMF C2 H8 N2

L18 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1012538 HCAPLUS

DOCUMENT NUMBER: 145:363631

TITLE: Hydrophobic elastomeric polymer chemistry  
device for inhibiting the growth of onychomycosis and  
urushiol-induced allergic contact dermatitis

INVENTOR(S): Kovacs, Stephen G.; Chesson, Jerry

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 16pp., Cont.-in-part of U.S.  
Ser. No. 757,294.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006216267	A1	20060928	US 2005-284649	20051122
US 2004147649	A1	20040729	US 2004-757294	20040114
US 7008997	B2	20060307		
WO 2007062381	A2	20070531	WO 2006-US61179	20061122

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

## PRIORITY APPLN. INFO.:

US 2002-223991	B2 20020820
US 2004-757294	A2 20040114
US 2005-284649	A 20051122

AB A system and method for treating onychomycosis and skin conditions such as urushiol-induced allergic contact dermatitis comprises coating the affected nail or skin with a solution comprising a primary diamine with modified diphenylmethane diisocyanates and a carrier solvent/reactant. A secondary diamine may be mixed with the primary diamine in an oligomeric, stoichiometrically balanced blend. Upon topical application, the carrier solvent/reactant evaps., allowing polymerization of the remaining solution constituents to form a non-toxic, hydrophobic, elastomeric polyurethane-linked copolymer coating that provides a barrier against moisture impregnation, inhibiting the growth of dermatophytes and urushiol-infected skin cells. Thus, a poison ivy infection of adult male was treated with a composition containing acetone 240, acetate 126.75, Versalink P-1000 55.5, ethylene glycol 7.5, propylene glycol 7.5, Rubinate 9259 or 2143 37.5 mL, resp. Itching stopped in less than a second and the condition cleared in two days. No side effects were observed Using the same composition, a 6-mo nail fungus infection of adult male was cleared up and has not recurred.

IT 910564-73-7  
 RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
 (hydrophobic elastomeric polyurea/polyurethane chemical device for inhibiting growth of onychomycosis and urushiol-induced allergic contact dermatitis)

RN 910564-73-7 HCAPLUS

CN Hexane, dichloro-1,6-diisocyanato- (9CI) (CA INDEX NAME)

OCN- (CH<sub>2</sub>)<sub>6</sub>-NCO

2 (D1-C1)

L18 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:790852 HCAPLUS

DOCUMENT NUMBER: 145:231004

TITLE: Process for production of polyurethane emulsion for aqueous one-package coating materials

INVENTOR(S): Izumi, Naotaka; Morishima, Takeshi; Ohki, Iku;  
Ikemoto, Mitsushige  
PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd, Japan  
SOURCE: PCT Int. Appl., 26pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006082622	A1	20060810	WO 2005-JP1384	20050201
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

## PRIORITY APPLN. INFO.:

WO 2005-JP1384 20050201

AB Disclosed is a process for the production of a polyurethane emulsion for aqueous one-package coating materials which are excellent in storage stability, safe with concern for the environment, and excellent in applicability and in the appearance, water resistance, and solvent resistance of film. A process for the production of a polyurethane emulsion for aqueous one-package coating materials, characterized by reacting an organic diisocyanate (a1) with a high-mol. polyol (a2) having a number-average mol. weight of 250 to less than 1,000 and a carboxyl-containing low-mol. glycol (a3) to prepare a carboxyl-containing isocyanato-terminated urethane prepolymer (A), mixing the prepolymer (A) with a hydrophobic polyisocyanate (B), neutralizing the carboxyl groups contained in the system with a neutralizing agent (C), and then emulsifying the resulting mixture in water.

IT 853944-82-8P 853944-84-0P 853944-86-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(process for production of polyurethane emulsion for aqueous one-package coating materials)

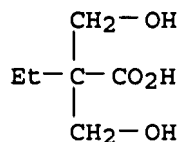
RN 853944-82-8 HCAPLUS

CN Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with 1,3-butanediol, diethyl carbonate, 1,6-diisocyanatohexane, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

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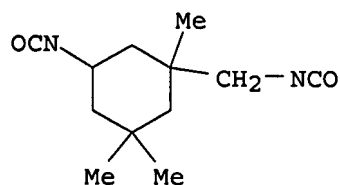
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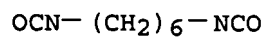
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CRN 4098-71-9  
CMF C12 H18 N2 O2



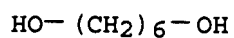
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CRN 822-06-0  
CMF C8 H12 N2 O2



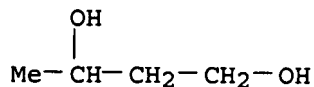
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CRN 629-11-8  
CMF C6 H14 O2



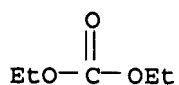
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CRN 107-88-0  
CMF C4 H10 O2



CM 6

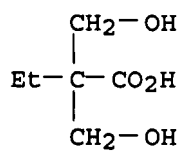
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CMF C5 H10 O3



RN 853944-84-0 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, 2,2-bis(hydroxymethyl)butanoic acid, 1,3-butanediol, 1,6-diisocyanatohexane, 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

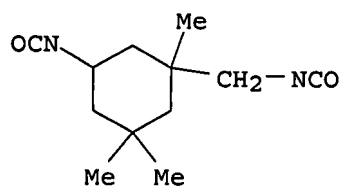
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CRN 10097-02-6  
 CMF C6 H12 O4



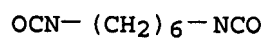
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CRN 4098-71-9  
 CMF C12 H18 N2 O2



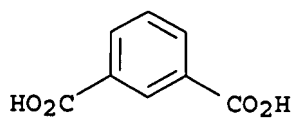
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CRN 822-06-0  
 CMF C8 H12 N2 O2



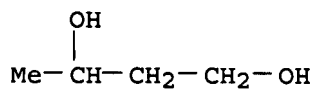
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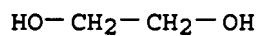


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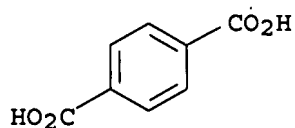
CRN 107-88-0  
 CMF C4 H10 O2



CM 6

CRN 107-21-1  
CMF C2 H6 O2

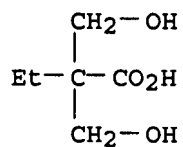
CM 7

CRN 100-21-0  
CMF C8 H6 O4

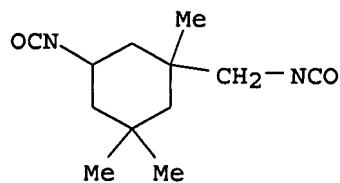
RN 853944-86-2 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, 2,2-bis(hydroxymethyl)butanoic acid, 1,3-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 10097-02-6  
CMF C6 H12 O4

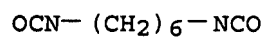
CM 2

CRN 4098-71-9  
CMF C12 H18 N2 O2

CM 3

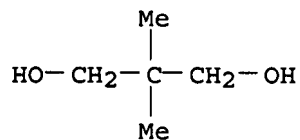


CRN 822-06-0  
CMF C8 H12 N2 O2



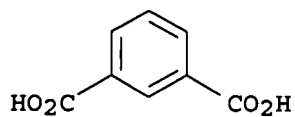
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CRN 126-30-7  
CMF C5 H12 O2



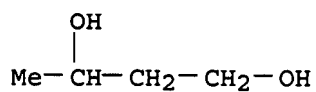
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CRN 121-91-5  
CMF C8 H6 O4



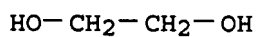
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CRN 107-88-0  
CMF C4 H10 O2



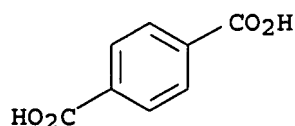
CM 7

CRN 107-21-1  
CMF C2 H6 O2



CM 8

CRN 100-21-0  
CMF C8 H6 O4



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1335403 HCAPLUS

DOCUMENT NUMBER: 144:52106

TITLE: Control of polymer surface molecular architecture via amphipathic endgroups, block polyurethane composition, medical device, prosthesis or package assembly

INVENTOR(S): Ward, Robert S.; Mccrea, Keith R.; Tian, Yuan; Parakka, James P.

PATENT ASSIGNEE(S): The Polymer Technology Group, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of U.S. Ser. No. 125,196.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005282997	A1	20051222	US 2005-211734	20050826
WO 2004044012	A1	20040527	WO 2003-US35912	20031112

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-425253P P 20021112  
WO 2003-US35912 A1 20031112  
US 2005-125196 A2 20050510

AB Polymer surfaces are modified by endgroups that include amphipathic surface-modifying moieties. An amphipathic endgroup of a polymer mol. is an endgroup that contains  $\geq 2$  moieties of significantly differing composition, such that the amphipathic endgroup spontaneously rearranges its positioning in a polymer body to position the moiety on the surface of the body, depending upon the composition of the medium with which the body is in contact, when that re-positioning causes a reduction in interfacial energy. An example of an amphipathic surface-modifying endgroup has both a hydrophobic moiety and a hydrophilic moiety in a single endgroup. For instance, a hydrophilic poly(ethylene oxide) terminated with a hydrophilic hydroxyl group is not surface active in air when the surface-modifying endgroup is bonded to a more hydrophobic base polymer. If the hydroxyl group on the oligomeric poly(ethylene oxide) is replaced by a hydrophobic methoxy ether terminus, the poly(ethylene oxide) becomes surface active in air, and allows the poly(ethylene oxide) groups to crystallize at the surface. In this example, immersion in H<sub>2</sub>O destroys the crystallinity as the poly(ethylene oxide) sorbs H<sub>2</sub>O and the hydrophobic methoxy group retreats below the surface of the polymer.

IT 478252-51-6DP, Dimethylolpropionic acid-ethylenediamine-HMDI-PTMG copolymer, reaction products with monofunctional polyalkylene glycols  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (control of polymer surface mol. architecture via amphipathic end groups)

RN 478252-51-6 HCAPLUS

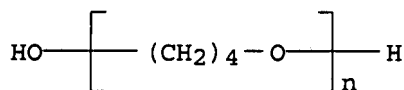
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, 1,2-ethanediamine and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

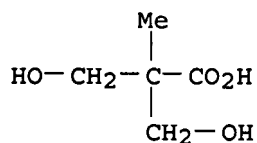
CCI PMS



CM 2

CRN 4767-03-7

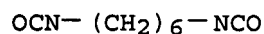
CMF C5 H10 O4



CM 3

CRN 822-06-0

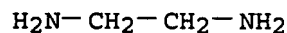
CMF C8 H12 N2 O2



CM 4

CRN 107-15-3

CMF C2 H8 N2



L18 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1291246 HCAPLUS

DOCUMENT NUMBER: 144:419592

TITLE: The in vitro hydrolysis of poly(ester urethane)s consisting of poly[(R)-3-hydroxybutyrate] and poly(ethylene glycol)

AUTHOR(S): Loh, Xian Jun; Tan, Kah Kyee; Li, Xu; Li, Jun  
 CORPORATE SOURCE: Institute of Materials Research and Engineering  
 (IMRE), National University of Singapore, Singapore,  
 117602, Singapore  
 SOURCE: Biomaterials (2006), 27(9), 1841-1850  
 CODEN: BIMADU; ISSN: 0142-9612  
 PUBLISHER: Elsevier Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB This paper reports the study of the complete degradation process for a series of newly synthesized multi-block poly(ester urethane)s consisting of poly[(R)-3-hydroxybutyrate] (PHB) as hard and hydrophobic block and poly(ethylene glycol) (PEG) as soft and hydrophilic segment. The initial stages of degradation of the poly(PHB/PEG urethane)s were monitored by carrying out the degradation expts. at pH 7.4 and 37°. The weight loss of the copolymer films was traced, and the degraded copolymer films were characterized by GPC, <sup>1</sup>H NMR, TGA, and SEM. The induction phase of the polymer degradation was characterized by a random chain scission of the ester backbone bonds of the PHB segments and an insignificant decline in the weight of the polymer films. An accelerated degradation process was carried out at pH 11.5 and 37° to investigate the long-term degradation behavior. The characterization of the degraded polymer films was similar to that for the experiment at pH 7.4. In addition, the water-soluble degradation products were characterized by GPC, <sup>1</sup>H NMR, and FTIR. The main components of the water-soluble degradation products were found to be PEG blocks (monomeric up to quadmeric), 3-hydroxybutyric acid, and crotonic acid. It was found that the copolymer incorporating the highest amount of PEG degraded at the highest rate of all the copolymers studied. The complete degradation of the poly(PHB/PEG urethane)s was monitored using a combination of the physiol. and accelerated hydrolytic degradation

IT 863604-21-1  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(in vitro hydrolysis of poly(ester urethane)s consisting of poly[(R)-3-hydroxybutyrate] and poly(ethylene glycol))

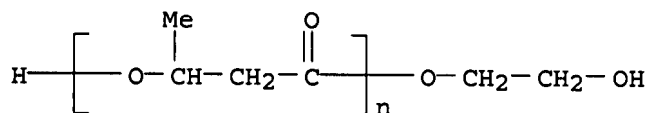
RN 863604-21-1 HCAPLUS  
 CN Oxirane, polymer with 1,6-diisocyanatohexane and α-hydro-ω-(2-hydroxyethoxy)poly[oxy[(1R)-1-methyl-3-oxo-1,3-propanediyl]], block (CA INDEX NAME)

CM 1

CRN 191274-46-1

CMF (C4 H6 O2)<sub>n</sub> C2 H6 O2

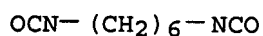
CCI PMS



CM 2

CRN 822-06-0

CMF C8 H12 N2 O2



CM 3

CRN 75-21-8  
CMF C2 H4 O

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:632307 HCAPLUS

DOCUMENT NUMBER: 143:154992

TITLE: Manufacture of polyurethane emulsions for aqueous  
one-component water- and solvent resistant coatings  
INVENTOR(S): Izumi, Naotaka; Morishima, Takeshi; Oki, Iku; Ikemoto,  
Mitsunari

PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

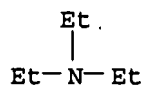
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005194375	A	20050721	JP 2004-1761	20040107
PRIORITY APPLN. INFO.:			JP 2004-1761	20040107
AB	The manufacturing method includes reacting organic diisocyanates, polyols with Mn 250-1,000, and CO <sub>2</sub> H-containing low-mol.-weight glycols to give CO <sub>2</sub> H-containing NCO-terminated urethane prepolymers, mixing with hydrophobic polyisocyanates, neutralizing CO <sub>2</sub> H with neutralizing agents, and emulsifying in H <sub>2</sub> O. Thus, a polyurethane coating manufactured from IPDI, 1,6-hexanediol-di-Et carbonate diol, 2,2-dimethylolbutanoic acid, a 1,3-butanediol-modified HDI isocyanurate, and NEt <sub>3</sub> showed pencil hardness (JIS K 5400) F.			
IT	853944-83-9P, 1,3-Butanediol-diethyl carbonate-2,2-dimethylolbutanoic acid-HDI-1,6-hexanediol-IPDI copolymer triethylamine salt 853944-85-1P, 1,3-Butanediol-ethylene glycol-2,2-dimethylolbutanoic acid-HDI-IPDI-isophthalic acid-terephthalic acid copolymer triethylamine salt 853944-87-3P, 1,3-Butanediol-ethylene glycol-2,2-dimethylolbutanoic acid-HDI-IPDI-isophthalic acid-neopentyl glycol-terephthalic acid copolymer triethylamine salt 859167-86-5P, Diethyl carbonate-2,2-dimethylolbutanoic acid-1,6-hexanediol-HDI-IPDI copolymer triethylamine salt 859167-88-7DP, 1,3-Butanediol-diethyl carbonate-2,2-dimethylolbutanoic acid-ethylenediamine-HDI-1,6-hexanediol-IPDI copolymer triethylamine salt, derivative with monoethanolamine RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyurethane emulsions for aqueous one-component water- and solvent resistant coatings)			
RN	853944-83-9 HCAPLUS			
CN	Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with 1,3-butanediol, diethyl carbonate, 1,6-diisocyanatohexane, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)			

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 853944-82-8

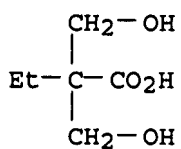
CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C6 H14 O2 . C6 H12 O4 . C5 H10 O3 . C4 H10 O2)x

CCI PMS

CM 3

CRN 10097-02-6

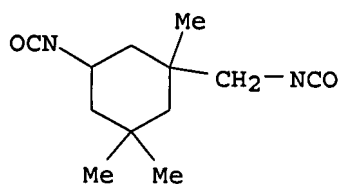
CMF C6 H12 O4



CM 4

CRN 4098-71-9

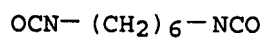
CMF C12 H18 N2 O2



CM 5

CRN 822-06-0

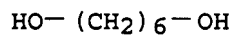
CMF C8 H12 N2 O2



CM 6

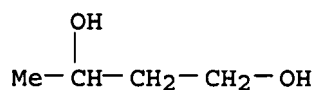
CRN 629-11-8

CMF C6 H14 O2



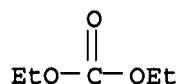
CM 7

CRN 107-88-0  
CMF C4 H10 O2



CM 8

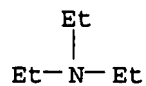
CRN 105-58-8  
CMF C5 H10 O3



RN 853944-85-1 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, 2,2-bis(hydroxymethyl)butanoic acid, 1,3-butanediol, 1,6-diisocyanatohexane, 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8  
CMF C6 H15 N

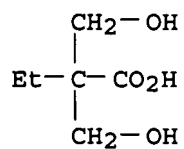


CM 2

CRN 853944-84-0  
CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C8 H6 O4 . C8 H6 O4 . C6 H12 O4 . C4 H10 O2 . C2 H6 O2)x  
CCI PMS

CM 3

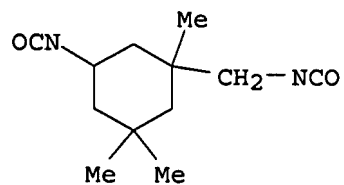
CRN 10097-02-6  
CMF C6 H12 O4



CM 4

CRN 4098-71-9

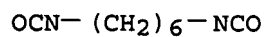
CMF C12 H18 N2 O2



CM 5

CRN 822-06-0

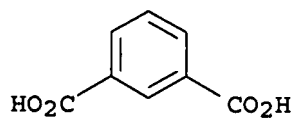
CMF C8 H12 N2 O2



CM 6

CRN 121-91-5

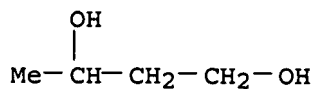
CMF C8 H6 O4



CM 7

CRN 107-88-0

CMF C4 H4 O2



CM 8

CRN 107-21-1

CMF C2 H6 O2

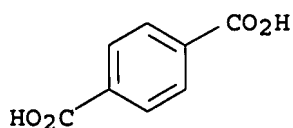




CM 9

CRN 100-21-0

CMF C8 H6 O4



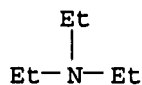
RN 853944-87-3 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, 2,2-bis(hydroxymethyl)butanoic acid, 1,3-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 853944-86-2

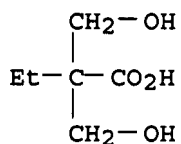
CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C8 H6 O4 . C8 H6 O4 . C6 H12 O4 . C5 H12 O2 . C4 H10 O2 . C2 H6 O2)x

CCI PMS

CM 3

CRN 10097-02-6

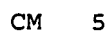
CMF C6 H12 O4



CM 4

CRN 4098-71-9

CMF C12 H18 N2 O2



CMF C8 H12 N2 O2



CMF C5 H12 O2



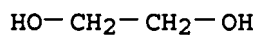
CMF C8 H6 O4



CMF C4 H10 O2

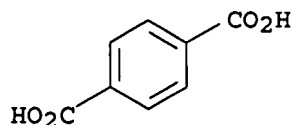


CRN 107-21-1  
CMF C2 H6 O2



CM 10

CRN 100-21-0  
CMF C8 H6 O4

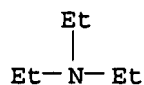


RN 859167-86-5 HCAPLUS

CN Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with diethyl carbonate, 1,6-diisocyanatohexane, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8  
CMF C6 H15 N



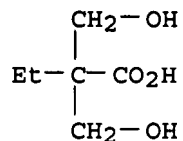
CM 2

CRN 859167-85-4

CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C6 H14 O2 . C6 H12 O4 . C5 H10 O3)x  
CCI PMS

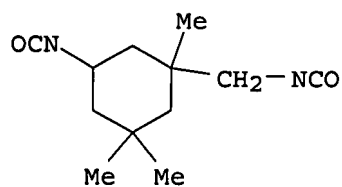
CM 3

CRN 10097-02-6  
CMF C6 H12 O4



CM 4

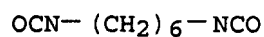
CRN 4098-71-9  
CMF C12 H18 N2 O2



CM 5

CRN 822-06-0

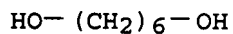
CMF C8 H12 N2 O2



CM 6

CRN 629-11-8

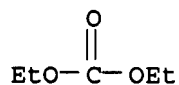
CMF C6 H14 O2



CM 7

CRN 105-58-8

CMF C5 H10 O3



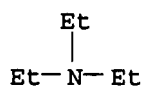
RN 859167-88-7 HCAPLUS

CN Butanoic acid, 2,2-bis(hydroxymethyl)-, polymer with 1,3-butanediol, diethyl carbonate, 1,6-diisocyanatohexane, 1,2-ethanediamine, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 859167-87-6

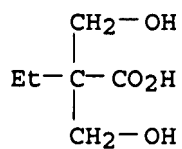
CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C6 H14 O2 . C6 H12 O4 . C5 H10 O3 .  
C4 H10 O2 . C2 H8 N2)x

CCI PMS

CM 3

CRN 10097-02-6

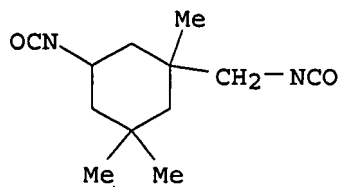
CMF C6 H12 O4



CM 4

CRN 4098-71-9

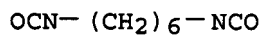
CMF C12 H18 N2 O2



CM 5

CRN 822-06-0

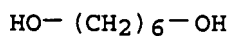
CMF C8 H12 N2 O2



CM 6

CRN 629-11-8

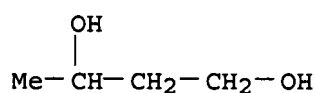
CMF C6 H14 O2



CM 7

CRN 107-88-0

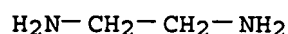
CMF C4 H10 O2



CM 8

CRN 107-15-3

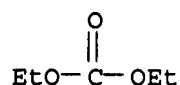
CMF C2 H8 N2



CM 9

CRN 105-58-8

CMF C5 H10 O3



L18 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:583303 HCAPLUS

DOCUMENT NUMBER: 143:272319

TITLE: Poly(ester urethane)s Consisting of  
Poly[(R)-3-hydroxybutyrate] and Poly(ethylene glycol)  
as Candidate Biomaterials: Characterization and  
Mechanical Property Study

AUTHOR(S): Li, Xu; Loh, Xian Jun; Wang, Ke; He, Chaobin; Li, Jun  
CORPORATE SOURCE: Institute of Materials Research and Engineering  
(IMRE), National University of Singapore, Singapore,  
117602, Singapore

SOURCE: Biomacromolecules (2005), 6(5), 2740-2747  
CODEN: BOMAF6; ISSN: 1525-7797

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly(ester urethane)s with poly[(R)-3-hydroxybutyrate] (PHB) as the hard and hydrophobic segment and poly(ethylene glycol) (PEG) as the soft and hydrophilic segment were synthesized from telechelic hydroxylated PHB (PHB-diol) and PEG using 1,6-hexamethylene diisocyanate as a nontoxic coupling reagent. Their chemical structures and mol. characteristics were studied by gel permeation chromatog., <sup>1</sup>H NMR, and Fourier transform IR spectroscopy. Results of differential scanning calorimetry and x-ray diffraction indicated that the PHB segment and PEG segment in the poly(ester urethane)s formed sep. crystalline phases with lower crystallinity and a lower m.p. than those of their corresponding precursors, except no PHB crystalline phase was observed in those with a relatively low PHB fraction. Thermogravimetric anal. showed that the poly(ester urethane)s had better thermal stability than their precursors. The segment compns. were calculated from the two-step thermal decomposition profiles, which were in good agreement with those obtained from <sup>1</sup>H NMR. Water contact angle measurement and water swelling anal. revealed that both surface hydrophilicity and bulk hydrophilicity of the poly(ester urethane)s were enhanced by incorporating the PEG segment into PHB polymer chains. The mech. properties of the poly(ester

urethane)s were also assessed by tensile strength measurement. It was found that the poly(ester urethane)s were ductile, while natural source PHB is brittle. Young's modulus and the stress at break increased with increasing PHB segment length or PEG segment length, whereas the strain at break increased with increasing PEG segment length or decreasing PHB segment length.

IT 863604-21-1P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(poly(ester urethane)s consisting of poly[(R)-3-hydroxybutyrate] and poly(ethylene glycol) as candidate biomaterials)

RN 863604-21-1 HCAPLUS

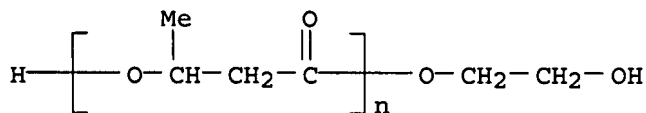
CN Oxirane, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -(2-hydroxyethoxy)poly[oxy[(1R)-1-methyl-3-oxo-1,3-propanediyl]], block (CA INDEX NAME)

CM 1

CRN 191274-46-1

CMF (C4 H6 O2)n C2 H6 O2

CCI PMS



CM 2

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 3

CRN 75-21-8

CMF C2 H4 O



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:449608 HCAPLUS

DOCUMENT NUMBER: 142:483569

TITLE: Activator for hydraulic transfer and manufacture of hydraulic-transferred article

INVENTOR(S): Nagata, Hiroto; Ariga, Toshiro; Miyagawa, Atsushi

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005132014	A	20050526	JP 2003-372171	20031031
PRIORITY APPLN. INFO.:			JP 2003-372171	20031031

AB The activator is used for activating a transfer layer of a hydraulic transfer film. The transfer film has a water-soluble or water-swellaable resin support and an organic solvent-soluble hydrophobic transfer layer on the support, wherein the transfer layer has a decorative layer and an actinic ray- or heat-curable resin layer. The transferred article is manufactured by floating the transfer film on water so that the transfer layer becomes upper side, activating the transfer layer with the activator, pressing a substrate on the transfer layer to transfer the film on the substrate, removing the support from the transfer film, irradiating actinic ray to cure the transferred curable resin layer. The activator satisfies (1) leveling property of spreading to diameter  $\geq 10$  mm after 30 s when 10  $\mu$ L of the activator is dropped on the transfer layer, (2) permeability of droplet volume reduction 5-30% after 15 s when 10  $\mu$ L of the activator is dropped on the transfer layer, (3) curable resin layer dissolving-swellaability of removing  $\geq 80$  weight% of the resin layer by dissolving or swelling after 30 s when 10  $\mu$ L of the activator is dropped on the decorative layer-removed resin layer, and (4) decorative layer dissolving-swellaability of removing  $\geq 80$  weight% of the decorative layer by dissolving or swelling after 30 s when 10  $\mu$ L of the activator is dropped on the decorative layer. Thus, a transfer film having a decorative ink layer, a curable resin layer containing urethane acrylate (prepared from pentaerythritol, HDI, and hydroxyethyl methacrylate) and Paraloid A 11, and a PVA support was floated on water so that PVA side become bottom side. Then, an activator containing toluene, xylene, isobutanol, ethylcellosolve, butylcellosolve, Bu acetate, 3-methyl-3-methoxybutyl acetate, and diacetone alc. was jet on the film, and a primed steel sheet was hydraulic-transferred with the film. The PVA layer was removed by washing, and the resulting article was dried to give a decorated article showing good surface appearance free of wrinkle.

IT 680972-80-9P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (transfer layer, UV-cured; activator for hydraulic transfer film in manufacture of hydraulic-transferred article)

RN 680972-80-9 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with Acryloid A 11, 2,2-bis(hydroxymethyl)-1,3-propanediol and 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

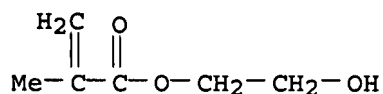
CRN 51909-90-1  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

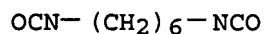
CRN 868-77-9  
 CMF C6 H10 O3





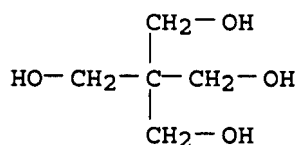
CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 4

CRN 115-77-5  
CMF C5 H12 O4



L18 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:300534 HCAPLUS  
DOCUMENT NUMBER: 142:356338  
TITLE: Water base dispersion of polyurethane resins with good adhesion, heat resistance, and coating workability for adhesives and primer coating agents  
INVENTOR(S): Kuba, Kazuo; Kitada, Mitsuru  
PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan  
SOURCE: PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030873	A1	20050407	WO 2003-JP12332	20030926
W: CN, ID, KR, US, VN				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1584658	A1	20051012	EP 2003-751285	20030926
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
CN 1742053	A	20060301	CN 2003-825966	20030926
US 2006148970	A1	20060706	US 2005-545013	20050810
PRIORITY APPLN. INFO.:			WO 2003-JP12332	W 20030926
AB Title dispersion comprises dispersed particles comprising (A) a self-emulsifiable polyurethane resin having anionic groups, (B) a hydrophobic resin with outflow start temperature $\leq 60^\circ$ and crystallization temperature $0-50^\circ$ , and (C) a water base medium. Thus, 1480 parts di-Me sodium 5-sulfoisophthalate and 1240 parts 1,6-hexanediol were reacted, 2280 parts $\epsilon$ -caprolactone was added therein and reacted				

to give a polyester polyol with hydroxyvalue 120 and acid value 0.3, 50 parts of which was reacted with 55 parts isophorone diisocyanate Me Et ketone, 1 part neopentyl glycol and 255 parts a butylene glycol-adipic acid copolymer and reacted at 80° to give a hydrophilic urethane prepolymer, 90 parts a butylene glycol-adipic acid copolymer was added therein, 525 parts water was added therein, 43.8 parts 10% aqueous piperazine solution was added therein and emulsified, removed solvent, 100 parts of the resulting 50%-solid aqueous polyurethane dispersion was mixed with 1 parts thickener and 5 parts Burnock CR 60N to give an adhesive with good initial adhesion, coating workability, leveling property, heat resistance, tack time 20 min (for polyvinyl chloride) and 15 min (for styrene-butadiene rubber).

IT 606141-58-6, Adipic acid-1,4-butanediol-hexamethylene diisocyanate-neopentyl glycol block copolymer  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (blend with polyurethane; water base dispersion of polyurethane resins with good adhesion, heat resistance, and coating workability for adhesives and primer coating agents)

RN 606141-58-6 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane and 2,2-dimethyl-1,3-propanediol, block (9CI) (CA INDEX NAME)

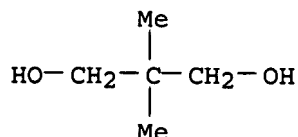
CM 1

CRN 822-06-0  
 CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 2

CRN 126-30-7  
 CMF C5 H12 O2



CM 3

CRN 124-04-9  
 CMF C6 H10 O4

HO<sub>2</sub>C-(CH<sub>2</sub>)<sub>4</sub>-CO<sub>2</sub>H

CM 4

CRN 110-63-4  
 CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:299513 HCAPLUS

DOCUMENT NUMBER: 142:356320

TITLE: Polyurethane aqueous dispersions with good adhesion and coatability, and heat-resistant adhesives and primers containing them

INVENTOR(S): Kuba, Kazuo; Kitada, Mitsuru

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005089511	A	20050407	JP 2003-321194	20030912
PRIORITY APPLN. INFO.:			JP 2003-321194	20030912
AB	The dispersions comprise (A) dispersed particles containing self-emulsifying polyurethanes having anionic groups and hydrophobic polymers with m.p. ≤60° and crystallization temperature 0-50° and (B) aqueous media. Thus, feeding 55 parts IPDI and 50 parts polyester polyol prepared from ε-caprolactone, 1,6-hexanediol, and Na 5-sulfoisophthalic acid di-Me ester, reacting, adding 255 parts neopentyl glycol-1,4-butylene glycol-adipic acid copolymer, reacting to give a urethane prepolymer, mixing with adipic acid-1,4-butylene glycol copolymer, dispersing, and adding a crosslinker (CR 60N) gave an adhesive, which was applied between PVC sheets to show adhesion strength 85 and 100 N/20 mm after storing for 2 h and 1 day, resp.			
IT	606141-58-6P, Adipic acid-1,4-butanediol-hexamethylene diisocyanate-neopentyl glycol block copolymer			
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (hydrophobic; hydrophobic polymer-containing polyurethane aqueous dispersions for adhesives and primers)			
RN	606141-58-6 HCAPLUS			
CN	Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane and 2,2-dimethyl-1,3-propanediol, block (9CI) (CA INDEX NAME)			

CM 1

CRN 822-06-0

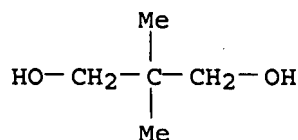
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 2

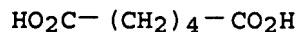
CRN 126-30-7

CMF C5 H12 O2



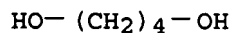
CM 3

CRN 124-04-9  
CMF C6 H10 O4



CM 4

CRN 110-63-4  
CMF C4 H10 O2



L18 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:97839 HCAPLUS

DOCUMENT NUMBER: 142:200189

TITLE: (Poly)uretdione with chemically coupled perfluoroalkyl compounds and procedures for their production.

INVENTOR(S): Wenning, Andreas; Weiss, Joern Volker; Appelhans, Dietmar; Gedan-Smolka, Michaela; Lehmann, Dieter

PATENT ASSIGNEE(S): Degussa AG, Germany

SOURCE: Ger. Offen., 10 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10332152	A1	20050203	DE 2003-10332152	20030715
WO 2005063842	A1	20050714	WO 2004-EP51413	20040708
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: DE 2003-10332152 A 20030715

AB Perfluoroalkyl groups-containing (poly)uretdiones (prepared by reacting functionalized trifluoromethyl-containing compds. with uretdione group-containing polyisocyanates and, optionally, polyols, polyamines or/and aminoalcs., other functionalized di- or/and polyols, polyisocyanates without

uretdione group or/and other reactive to NCO-group compds.) are useful as crosslinkers in coating materials (mostly in paints) for lending the coated surfaces (ultra)hydrophobic properties and as chain extenders to insert perfluoroalkyl groups in polymeric mols. Thus, a typical crosslinker is prepared by heating a mixture containing 52.63 weight% of N-(5-hydroxymethyl-6-hydroxyhex-1-yl)perfluorocaprylamide and 47.37 weight% of an IPDI-uretdione in 500 mL of acetone and in the presence of 0.1 weight% of a catalyst 18 h at 60°, followed by cooling to room temperature and treatment with pentylamine.

IT 833425-30-2P 833425-31-3P 833425-33-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(perfluoroalkyl groups-containing (poly)uretdiones; perfluoroalkyl groups-containing (poly)uretdiones, useful as crosslinkers in coating materials and as chain extenders)

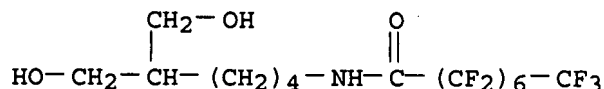
RN 833425-30-2 HCAPLUS

CN Octanamide, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-N-[6-hydroxy-5-(hydroxymethyl)hexyl]-, polymer with 1,4-butanediol, 1,6-diisocyanatohexane and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane dimer (9CI) (CA INDEX NAME)

CM 1

CRN 833425-27-7

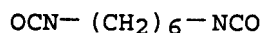
CMF C15 H16 F15 N O3



CM 2

CRN 822-06-0

CMF C8 H12 N2 O2



CM 3

CRN 110-63-4

CMF C4 H10 O2



CM 4

CRN 53895-31-1

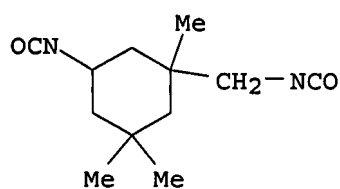
CMF (C12 H18 N2 O2)2

CCI PMS

CM 5

CRN 4098-71-9

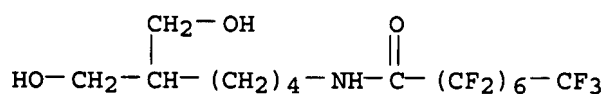
CMF C12 H18 N2 O2



RN 833425-31-3 HCAPLUS  
 CN Octanamide, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-N-[6-hydroxy-5-(hydroxymethyl)hexyl]-, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane dimer (9CI)  
 (CA INDEX NAME)

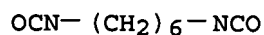
CM 1

CRN 833425-27-7  
 CMF C15 H16 F15 N O3



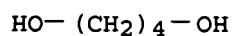
CM 2

CRN 822-06-0  
 CMF C8 H12 N2 O2



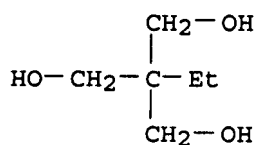
CM 3

CRN 110-63-4  
 CMF C4 H10 O2



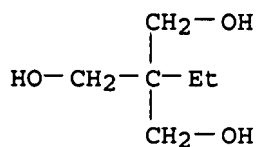
CM 4

CRN 77-99-6  
 CMF C6 H14 O3





CRN 77-99-6  
CMF C6 H14 O3

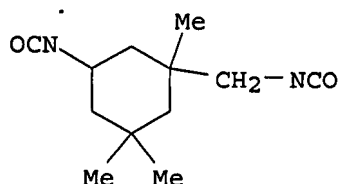


CM 5

CRN 53895-31-1  
CMF (C12 H18 N2 O2)2  
CCI PMS

CM 6

CRN 4098-71-9  
CMF C12 H18 N2 O2



L18 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:77951 HCAPLUS  
DOCUMENT NUMBER: 142:135212  
TITLE: Biodegradable copolymer, and polymeric micelle composition containing the same  
INVENTOR(S): Tsai, Bin-Hong; Chen, Jui-Hsiang; Chen, Muh-Lan; Chen, Yu-Hua; Liu, Mei-Jung  
PATENT ASSIGNEE(S): Taiwan  
SOURCE: U.S. Pat. Appl. Publ., 11 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005019303	A1	20050127	US 2003-745975	20031229
TW 248947	B	20060211	TW 2003-92119778	20030721
CN 1603356	A	20050406	CN 2003-143468	20030930
EP 1550680	A1	20050706	EP 2003-29295	20031222
EP 1550680	B1	20060927		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

AT 340815 T 20061015 AT 2003-29295 20031222

PRIORITY APPLN. INFO.: TW 2003-92119778 A 20030721  
EP 2003-29295 A 20031222

AB A biodegradable copolymer with a core block comprising bioresorbable hydrophobic polyester segment and from 3 to 10 shell blocks



comprising hydrophilic polyethylene glycol segment. The hydrophobic polyester segment and each of the hydrophilic polyethylene glycol segments are linked by a urethane linkage.

A polymeric micelle composition containing the copolymer is also provided. The copolymer forms micelles when the concentration of the copolymer in a dispersing medium reaches or exceeds the critical micelle concentration. The micelles possess good drug and bioactive agent delivery characteristics and are suitable for use in drug delivery or cosmetic applications.

IT 853129-91-6P 853136-44-4P

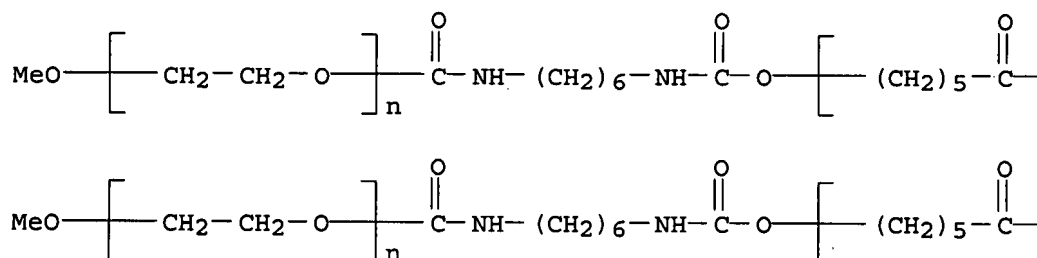
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(biodegradable copolymer, and polymeric micelle composition containing the same)

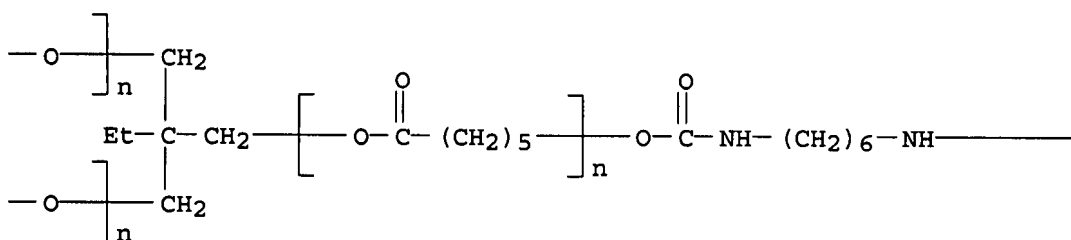
RN 853129-91-6 HCAPLUS

CN Poly[oxy(1-oxo-1,6-hexanediyl)],  $\alpha$ -hydro- $\omega$ -[[[6-(carboxyamino)hexyl]amino]carbonyl]oxy]-, ester with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and  $\alpha$ -hydro- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) (3:1:3), block (9CI) (CA INDEX NAME)

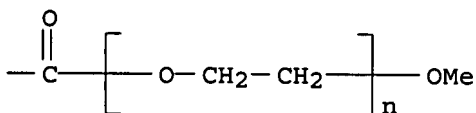
PAGE 1-A



PAGE 1-B



PAGE 1-C



RN 853136-44-4 HCAPLUS

CN Poly[oxy(1-oxo-1,6-hexanediyl)],  $\alpha$ -hydro- $\omega$ -[[[6-(carboxyamino)hexyl]amino]carbonyl]oxy]-, ester with 2,2-

bis(hydroxymethyl)-1,3-propanediol and  $\alpha$ -hydro- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) (4:1:4), block (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L18 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:430840 HCAPLUS  
DOCUMENT NUMBER: 141:7664  
TITLE: Control of polymer surface molecular architecture via amphipathic end groups  
INVENTOR(S): Ward, Robert S.; McCrea, Keith R.; Tian, Yuan  
PATENT ASSIGNEE(S): The Polymer Technology Group Incorporated, USA  
SOURCE: PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004044012	A1	20040527	WO 2003-US335912	20031112
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2505821	A1	20040527	CA 2003-2505821	20031112
AU 2003298626	A1	20040603	AU 2003-298626	20031112
EP 1567559	A1	20050831	EP 2003-796378	20031112
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 2005282997	A1	20051222	US 2005-211734	20050826
PRIORITY APPLN. INFO.:			US 2002-425253P	P 20021112
			WO 2003-US35912	W 20031112
			US 2005-125196	A2 20050510

AB Polymer surfaces are modified by end groups that include amphipathic surface-modifying moieties. An amphipathic end group of a polymer mol. is an end group that contains at least two moieties of significantly differing composition, such that the amphipathic end group spontaneously rearranges its positioning in a polymer body to position the moiety on the surface of the body, depending upon the composition of the medium with which the body is in contact, when that re-positioning causes a reduction in interfacial energy. An example of an amphipathic surface-modifying end group is one that has both a hydrophobic moiety and a hydrophilic moiety in a single end group. For instance, a hydrophilic poly(ethylene oxide) terminated with a hydrophilic hydroxyl group is not surface active in air when the surface-modifying end group is bonded to a more hydrophobic base polymer. If the hydroxyl group on the oligomeric poly(ethylene oxide) is replaced by a hydrophobic methoxy ether terminus, the poly(ethylene oxide) becomes surface active in air, and allows the poly(ethylene oxide) groups to crystallize in the air-facing surface. In this example, immersion in water destroys the crystallinity as the poly(ethylene oxide) absorbs water and the hydrophobic methoxy group retreats below the surface of the polymer. Also disclosed are methods and articles of manufacture that make use of these polymers.

IT 478252-51-6DP, Dimethylolpropionic acid-ethylenediamine-HMDI-PTMG

copolymer, reaction products with monofunctional polyalkylene glycols  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (control of polymer surface mol. architecture via amphipathic end groups)

RN 478252-51-6 HCAPLUS

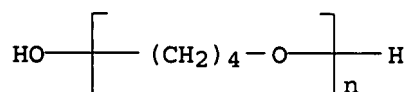
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with  
 1,6-diisocyanatohexane, 1,2-ethanediamine and  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

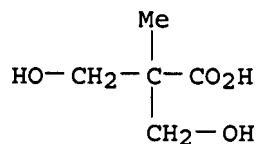
CCI PMS



CM 2

CRN 4767-03-7

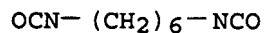
CMF C5 H10 O4



CM 3

CRN 822-06-0

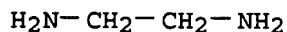
CMF C8 H12 N2 O2



CM 4

CRN 107-15-3

CMF C2 H8 N2



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:203576 HCAPLUS

DOCUMENT NUMBER: 140:254386

TITLE: Silicone copolymer oil pastes containing organic  
 compounds

INVENTOR(S): Herzig, Christian; Dormeier, Siegfried  
 PATENT ASSIGNEE(S): Wacker-Chemie G.m.b.H., Germany  
 SOURCE: U.S. Pat. Appl. Publ., 7 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004048999	A1	20040311	US 2003-655102	20030904
US 7022802	B2	20060404		
DE 10241148	A1	20040318	DE 2002-10241148	20020905
EP 1398343	A1	20040317	EP 2003-18674	20030821
EP 1398343	B1	20050126		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004099890	A	20040402	JP 2003-309842	20030902
CN 1488676	A	20040414	CN 2003-155672	20030902
PRIORITY APPLN. INFO.:		DE 2002-10241148	A	20020905

AB Pastes comprise (1) siloxane copolymers which contain at least two groups -C(O)NR1 in covalently bonded form on average per mol., where R1 is a hydrogen atom or an alkyl radical having 1 to 18 carbon atoms and (2) organic compound(s) with a m.p. greater than 0° which are dispersed in the siloxane copolymers (1) and contain at least one group which participates in the formation of hydrogen bridges with the -C(O)NR1 groups in (1). The pastes are useful for numerous purposes, for example as hydrophobicizing compns.

IT 669055-59-8P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (silicone copolymer oil pastes containing organic compds.)

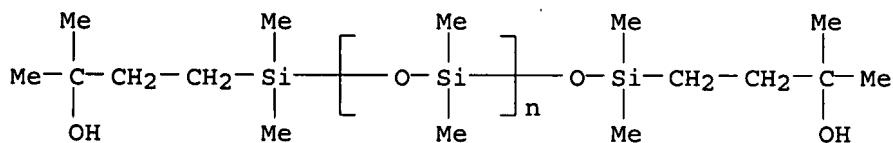
RN 669055-59-8 HCAPLUS  
 CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[[(3-hydroxy-3-methylbutyl)dimethylsilyl]- $\omega$ -[[[(3-hydroxy-3-methylbutyl)dimethylsilyl]oxy]-, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 669055-58-7

CMF (C2 H6 O Si)<sub>n</sub> C14 H34 O3 Si2

CCI PMS



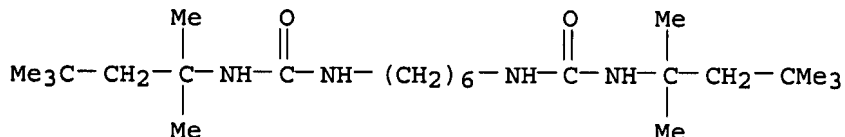
CM 2

CRN 822-06-0

CMF C8 H12 N2 O2



IT 669055-60-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (silicone copolymer oil pastes containing organic compds.)  
 RN 669055-60-1 HCAPLUS  
 CN Urea, N,N''-1,6-hexanediylbis[N'-(1,1,3,3-tetramethylbutyl)- (9CI) (CA  
 INDEX NAME)



L18 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:52893 HCAPLUS  
 DOCUMENT NUMBER: 140:112948  
 TITLE: Aqueous polyurethane primer coating agents with heat  
 resistance  
 INVENTOR(S): Hisaba, Kazuo; Kitada, Mitsuru  
 PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004018635	A	20040122	JP 2002-174240	20020614
PRIORITY APPLN. INFO.:			JP 2002-174240	20020614

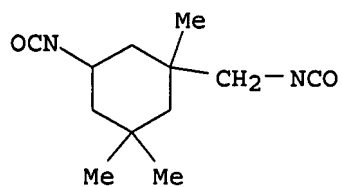
AB Title agents, having good penetration ability to porous substrates (e.g., paper, fibers, and leather), contain aqueous dispersions with surface tension (Ts) of ≤40 mN/m and consisting of self-emulsible terminal NCO group-containing hydrophilic urethane prepolymers (A) and hydrophobic resins (B) with number-average mol. weight (Mn) of 500-20,000, preferably at A/B of 40-99:1-60. An aqueous dispersion (with Ts of 35 mN/m) containing ε-caprolactone-di-Me 5-sodiosulfoisophthalate-1,6-hexanediol-IPDI-adipic acid (I)-1,4-butylene glycol (II)-neopentyl glycol (III) copolymer (IV) piperazine, and I-II-III-HMDI copolymer (V) (with Mn of 15,000) at 80:20 IV/V was added with a tackifier to form a primer, which was coated on a cotton cloth, dried, and laminated with an adhesive (containing IV and piperazine)-coated PVC sheet to form a laminate showing adhesion 26 N/20 mm and 49 N/20 mm after 2 min and 2 h, resp., and heat creep occurrence 14 min under 80° and 500-g load.

IT 646065-99-8P, Adipic acid-1,4-butanediol-ε-caprolactone-dimethyl sodium 5-sulfoisophthalate-1,6-hexanediol-HMDI-IPDI-neopentyl glycol-piperazine copolymer  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (cured; heat-resistant aqueous primer containing hydrophilic polyurethanes and hydrophobic resins for porous substrates)

RN 646065-99-8 HCAPLUS  
 CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, hexanedioic acid, 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and piperazine (9CI) (CA INDEX NAME)

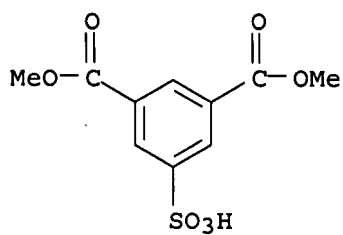
CM 1

CRN 4098-71-9  
CMF C12 H18 N2 O2



CM 2

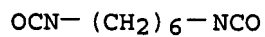
CRN 3965-55-7  
CMF C10 H10 O7 S . Na



● Na

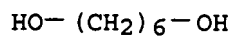
CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2



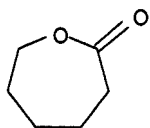
CM 4

CRN 629-11-8  
CMF C6 H14 O2



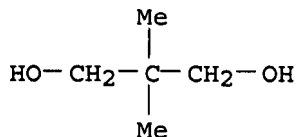
CM 5

CRN 502-44-3  
CMF C6 H10 O2



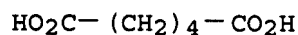
CM 6

CRN 126-30-7  
CMF C5 H12 O2



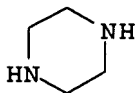
CM 7

CRN 124-04-9  
CMF C6 H10 O4



CM 8

CRN 110-85-0  
CMF C4 H10 N2



CM 9

CRN 110-63-4  
CMF C4 H10 O2



L18 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:949173 HCAPLUS

DOCUMENT NUMBER: 140:362958

TITLE: Preparation and polymerization behavior of polymeric  
dental restorative materials containing high molecular  
weight diluent system

AUTHOR(S): Kim, Ohyoung; Chun, Jiyoung; Kim, Yongwoon; Shim, W.  
Jaewoo

CORPORATE SOURCE: Department of Polymer Science & Engineering, Dankook University, Seoul, 140-714, S. Korea  
 SOURCE: Journal of Industrial and Engineering Chemistry (Seoul, Republic of Korea) (2003), 9(6), 679-685  
 CODEN: JIECFI; ISSN: 1226-086X  
 PUBLISHER: Korean Society of Industrial and Engineering Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Preparation of polymeric dental restorative materials (PDRM) showing a lower polymerization shrinkage was carried out using the hybrid-filler and 2,2'-bis-[4-(3-methacryloxy-2-hydroxypropoxy)phenyl]propane resin matrix that is diluted with a high mol. weight dimethacrylate monomer. A visible light system was utilized to activate the resin matrix for the polymerization. In order to enhance the miscibility of the inorg. hybrid-filler with organic resin matrix and to conduct the homogeneity of the filler in the PDRM, its surface was hydrophobically treated with  $\gamma$ -methacryloxypropyltrimethoxysilane. The degree of conversion (DC), depth of cure, and polymerization shrinkage of the PDRM were investigated. The results revealed that PDRM prepared herein showed markedly lower polymerization shrinkage values. Besides, regardless of the filler loading, both DC and depth of cure values decreased with an increase in the amount of less flexible diluent in the resin matrix.

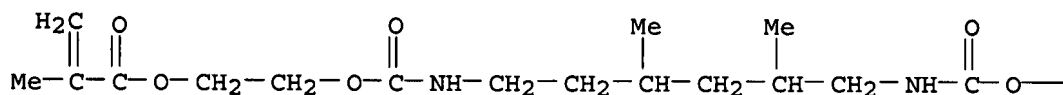
IT 405218-78-2  
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (preparation and polymerization behavior of polymeric dental restorative materials containing high mol. weight diluent system)

RN 405218-78-2 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] ester, polymer with 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bis(2-methyl-2-propenoate) (9CI) (CA INDEX NAME)

CM 1

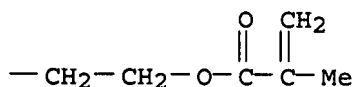
CRN 72869-86-4  
 CMF C23 H38 N2 O8  
 CCI IDS

PAGE 1-A



D1-Me

PAGE 1-B

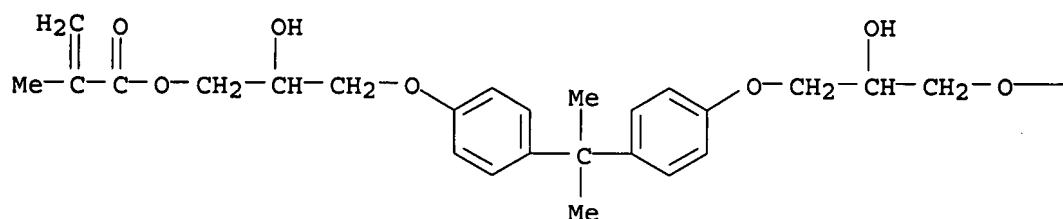


CM 2

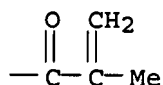
CRN 1565-94-2  
 CMF C29 H36 O8



PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:767939 HCAPLUS

DOCUMENT NUMBER: 139:277513

TITLE: Polyurethane resin composite water dispersion for adhesive and coating materials

INVENTOR(S): Kitada, Mitsuru; Kuba, Kazuo

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003277601	A	20031002	JP 2002-85608	20020326
PRIORITY APPLN. INFO.:			JP 2002-85608	20020326
<p>AB Title dispersion for providing adhesive and coating materials with adhesion to various materials, good heat-resistance after processing, and good processability at &lt;80° comprises (A) self-emulsifying isocyanate-terminated hydrophilic urethane prepolymer, and (B) hydrophobic resin with number average mol. weight 500-20,000, wherein A/B = 99/1-40/60. Thus an adhesive comprising (A) urethane prepolymer prepared from sodium di-Me 5-sulfoisophthalate-1,6-hexanediol-ε-caprolactone polyester polyol, IPDI, neopentyl glycol, 1,4-butanediol, and adipic acid, (B) hydrophobic resin prepared from 1,4-butylene glycol, adipic acid, neopentyl glycol, and hexamethylene diisocyanate, crosslinking agent CR 60N, and tackifier, was applied for adhering two PVC sheets, showing initial adhesive strength 65, after 2 h 90, after 1 day 110 N/20 mm, and good heat-resistance.</p>				
<p>IT 606141-58-6P, Adipic acid-1,4-butanediol-hexamethylene diisocyanate-neopentyl glycol block copolymer</p>				
<p>RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)</p>				
<p>(preparation and properties of polyurethane resin composite water dispersion for adhesive and coating)</p>				
<p>RN 606141-58-6 HCAPLUS</p>				
<p>CN Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane and</p>				

2,2-dimethyl-1,3-propanediol, block (9CI) (CA INDEX NAME)

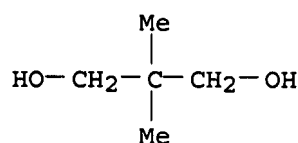
CM 1

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 2

CRN 126-30-7  
CMF C5 H12 O2



CM 3

CRN 124-04-9  
CMF C6 H10 O4

HO<sub>2</sub>C-(CH<sub>2</sub>)<sub>4</sub>-CO<sub>2</sub>H

CM 4

CRN 110-63-4  
CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

IT 606141-59-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation and properties of polyurethane resin composite water dispersion for adhesive and coating)

RN 606141-59-7 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-sulfo-, 1,3-dimethyl ester, sodium salt, polymer with Burnock CR 60N, 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, hexanedioic acid, 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone (9CI) (CA INDEX NAME)

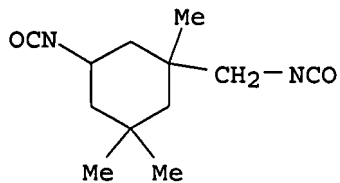
CM 1

CRN 145379-20-0  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

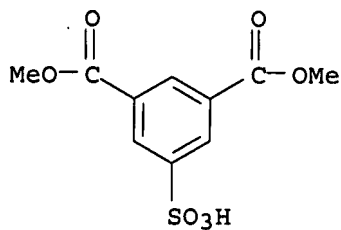
CM 2

CRN 4098-71-9  
CMF C12 H18 N2 O2



CM 3

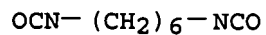
CRN 3965-55-7  
CMF C10 H10 O7 S . Na



● Na

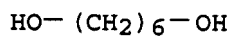
CM 4

CRN 822-06-0  
CMF C8 H12 N2 O2



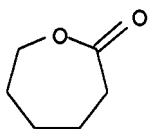
CM 5

CRN 629-11-8  
CMF C6 H14 O2



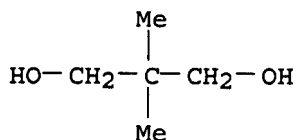
CM 6

CRN 502-44-3  
CMF C6 H10 O2



CM 7

CRN 126-30-7  
CMF C5 H12 O2



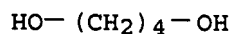
CM 8

CRN 124-04-9  
CMF C6 H10 O4



CM 9

CRN 110-63-4  
CMF C4 H10 O2



L18 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:751277 HCAPLUS

DOCUMENT NUMBER: 139:283418

TITLE: Lithographic master plates producing less insoluble development scums and platemaking therefor

INVENTOR(S): Oshima, Yasuhito

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2003270776	A	20030925	JP 2002-68812	20020313
PRIORITY APPLN. INFO.:			JP 2002-68812	20020313

AB The plates are manufactured by patternwise exposure of PS plates having, on Al

supports, neg. photoimaging layers containing ethylenically unsatd. monomers, photopolymn. initiators, and urethane binders containing (i) polyurethanes prepared from diisocyanates, carboxyl-containing diols, and diols of logP (hydrophobicity parameter, defined in disclosure) <0 and (ii) polyurethanes prepared from diisocyanates, carboxyl-containing diols, and diols of logP >0, to heat-mode (i.e., IR) laser beams followed by development with alkali developers of pH 11.5-12.8 and elec. conductivity 3-30 mS/cm containing nonionic compds. A-W (A = hydrophobic group giving logP of A-H ≥1.5; W = nonionic hydrophilic group giving logP of W-H <1.0).

IT 604784-07-8 604784-11-4 604784-12-5  
604784-67-0

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(neg. image area; presensitized lithog. plates containing carboxyl-containing urethane binders and forming patterns with less insol. scums)

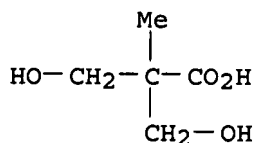
RN 604784-07-8 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2,2'-[oxybis(2,1-ethanediylloxy)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 4767-03-7

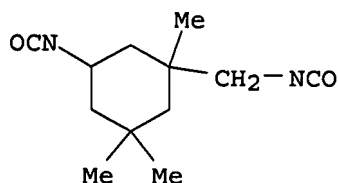
CMF C5 H10 O4



CM 2

CRN 4098-71-9

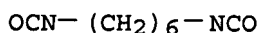
CMF C12 H18 N2 O2



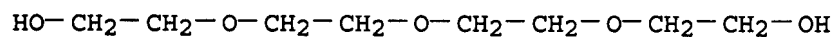
CM 3

CRN 822-06-0

CMF C8 H12 N2 O2



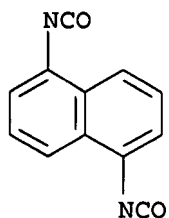
CM 4

CRN 112-60-7  
CMF C8 H18 O5

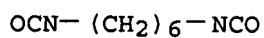
RN 604784-11-4 HCAPLUS

CN Benzoic acid, 3,5-dihydroxy-, polymer with 1,6-diisocyanatohexane,  
1,5-diisocyanatonaphthalene, 2,2-dimethyl-1,3-propanediol and  
2,2'-[(1-methylethyl)imino]bis[ethanol] (9CI) (CA INDEX NAME)

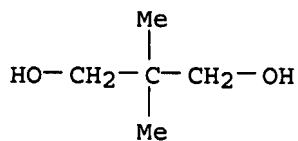
CM 1

CRN 3173-72-6  
CMF C12 H6 N2 O2

CM 2

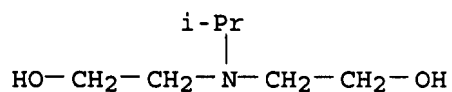
CRN 822-06-0  
CMF C8 H12 N2 O2

CM 3

CRN 126-30-7  
CMF C5 H12 O2

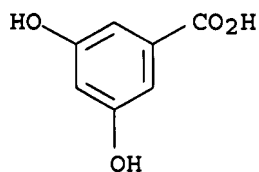
CM 4

CRN 121-93-7  
CMF C7 H17 N O2



CM 5

CRN 99-10-5  
CMF C7 H6 O4

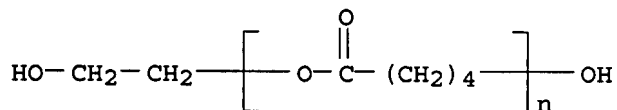


RN 604784-12-5 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, bis(2-hydroxyethyl) ester, polymer with  
1,6-diisocyanatohexane,  $\alpha$ -(2-hydroxyethyl)- $\omega$ -hydroxypoly[oxy(1-  
oxo-1,5-pentanedyl)], 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid  
and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

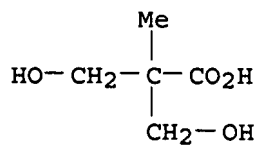
CM 1

CRN 347850-79-7  
CMF (C5 H8 O2)<sub>n</sub> C2 H6 O2  
CCI PMS



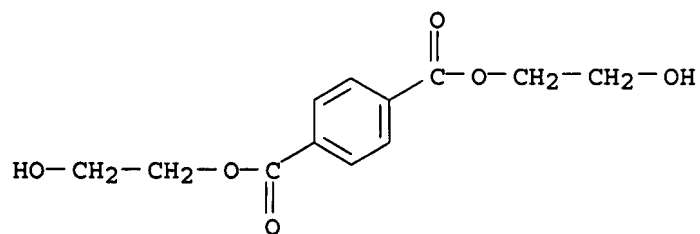
CM 2

CRN 4767-03-7  
CMF C5 H10 O4



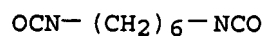
CM 3

CRN 959-26-2  
CMF C12 H14 O6



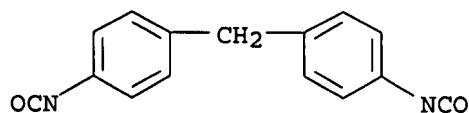
CM 4

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 5

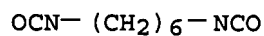
CRN 101-68-8  
CMF C15 H10 N2 O2



RN 604784-67-0 HCAPLUS  
CN Benzenedicarboxylic acid, bis[[[(2-hydroxyethyl)amino]carbonyl]-, polymer with 1,6-diisocyanatohexane and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

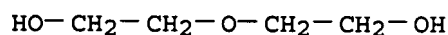
CM 1

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 2

CRN 111-46-6  
CMF C4 H10 O3

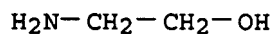


CM 3

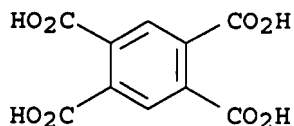
CRN 603991-54-4  
CMF C14 H16 N2 O8  
CCI IDS



CM 4

CRN 141-43-5  
CMF C2 H7 N O

CM 5

CRN 89-05-4  
CMF C10 H6 O8

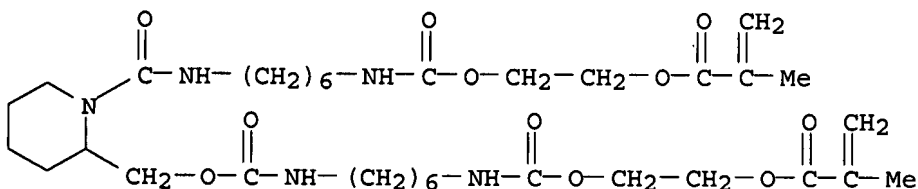
IT 444903-87-1P

RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(pos. image area; presensitized lithog. plates containing carboxyl-containing urethane binders and forming patterns with less insol. scums)

RN 444903-87-1 HCAPLUS

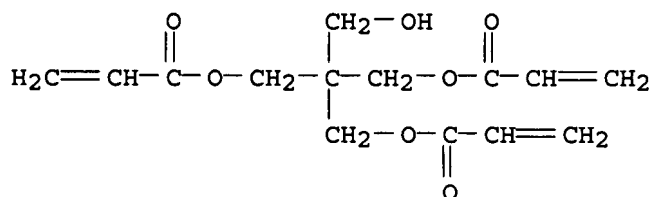
CN 11,14-Dioxa-2,9-diazaheptadec-16-enoic acid, 16-methyl-10,15-dioxo-, [1-(16-methyl-1,10,15-trioxo-11,14-dioxa-2,9-diazaheptadec-16-en-1-yl)-2-piperidinyl]methyl ester, polymer with 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxylmethyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 385843-63-0  
CMF C34 H57 N5 O11

CM 2

CRN 3524-68-3  
CMF C14 H18 O7



L18 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:751276 HCAPLUS

DOCUMENT NUMBER: 139:268025

TITLE: Lithographic plates producing less insoluble development scums having high printing durability and platemaking therefor

INVENTOR(S): Oshima, Yasuhito

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 54 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003270775	A	20030925	JP 2002-68811	20020313
US 2003211420	A1	20031113	US 2003-386427	20030313
US 7141353	B2	20061128		
EP 1400852	A2	20040324	EP 2003-5399	20030313

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRIORITY APPLN. INFO.: JP 2002-68811 A 20020313

AB The plates are manufactured by patternwise exposure of heat-mode laser beams on neg.-working presensitized lithog. plates having, on Al supports, urethane binders, ethylenically unsatd. compds., and photopolymn. catalysts, where the binders are prepared from diisocyanates, carboxyl-containing diols, diols of logP (hydrophobicity parameter, defined in disclosure) <0, and diols of logP >0. The thus-exposed layers are developed with developers containing nonionic compds. A-W (A = hydrophobic group giving logP of A-H ≥1.5; W = nonionic hydrophilic organic group giving logP of W-H <1.0) and satisfying pH 11.5-12.8 and elec. conductivity 3-30 mS/cm.

IT 461661-03-0 603962-67-0 603962-69-2  
603962-70-5 603962-71-6 603962-72-7  
603991-55-5 603991-56-6 603991-57-7

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(background area of pattern layers; lithog. plates containing sp. urethane binders and producing less insol. development scums)

RN 461661-03-0 HCAPLUS

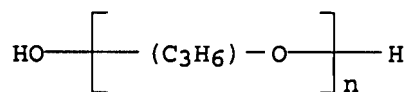
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4

CMF (C3 H6 O)n H2 O

CCI IDS, PMS

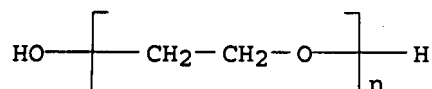


CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

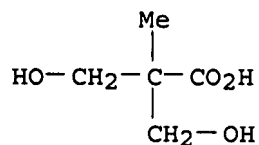
CCI PMS



CM 3

CRN 4767-03-7

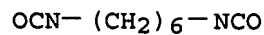
CMF C5 H10 O4



CM 4

CRN 822-06-0

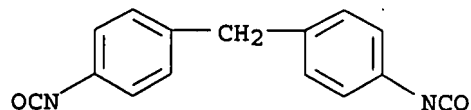
CMF C8 H12 N2 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2

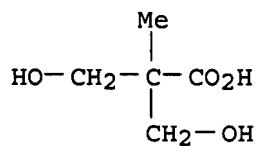


RN 603962-67-0 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, 1,5-diisocyanatonaphthalene, 2,2-dimethyl-1,3-propanediol and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

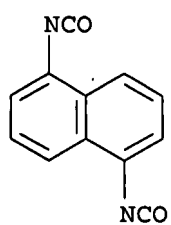
CM 1

CRN 4767-03-7  
CMF C5 H10 O4



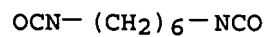
CM 2

CRN 3173-72-6  
CMF C12 H6 N2 O2



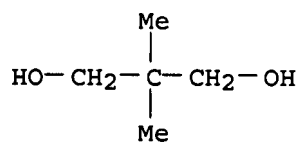
CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2



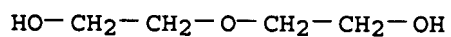
CM 4

CRN 126-30-7  
CMF C5 H12 O2



CM 5

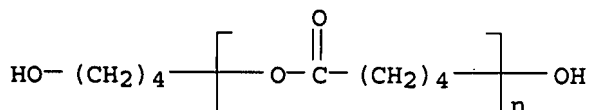
CRN 111-46-6  
CMF C4 H10 O3



RN 603962-69-2 HCAPLUS  
 CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with  
 1,6-diisocyanatohexane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-  
 ethanediyl),  $\alpha$ -(4-hydroxybutyl)- $\omega$ -hydroxypoly[oxy(1-oxo-1,5-  
 pentanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX  
 NAME)

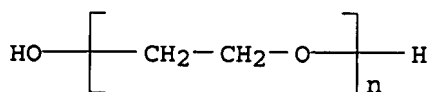
CM 1

CRN 603962-68-1  
 CMF (C5 H8 O2)<sub>n</sub> C4 H10 O2  
 CCI PMS



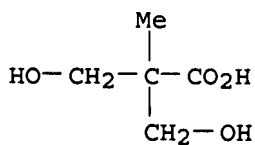
CM 2

CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



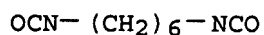
CM 3

CRN 4767-03-7  
 CMF C5 H10 O4



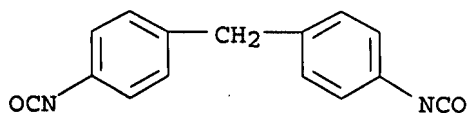
CM 4

CRN 822-06-0  
 CMF C8 H12 N2 O2



CM 5

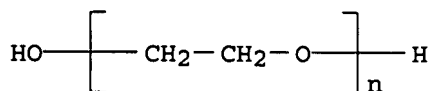
CRN 101-68-8  
 CMF C15 H10 N2 O2



RN 603962-70-5 HCAPLUS  
 CN 1,4-Benzenedicarboxylic acid, polymer with 1,6-diisocyanatohexane,  
 1,2-ethanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl),  
 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid and  
 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

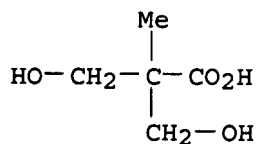
CM 1

CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



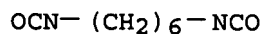
CM 2

CRN 4767-03-7  
 CMF C5 H10 O4



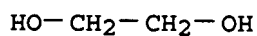
CM 3

CRN 822-06-0  
 CMF C8 H12 N2 O2



CM 4

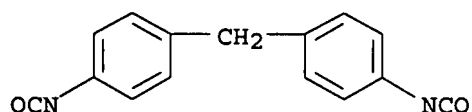
CRN 107-21-1  
 CMF C2 H6 O2



CM 5

CRN 101-68-8

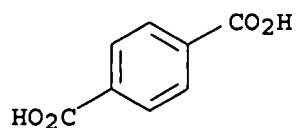
CMF C15 H10 N2 O2



CM 6

CRN 100-21-0

CMF C8 H6 O4



RN 603962-71-6 HCAPLUS

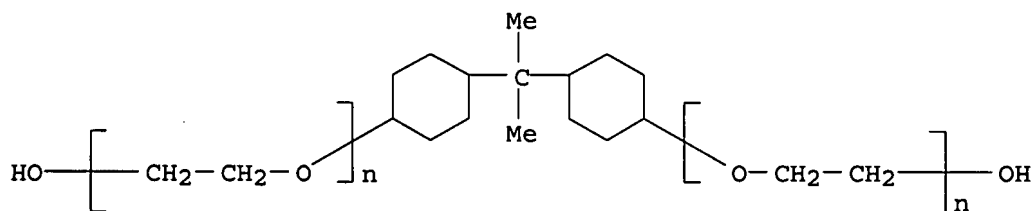
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, 1,1'-methylenebis[4-isocyanatobenzene],  $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-cyclohexanediyl]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] and 2,6-pyridinedimethanol (9CI) (CA INDEX NAME)

CM 1

CRN 62580-01-2

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H28 O2

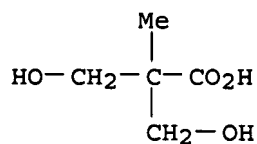
CCI PMS



CM 2

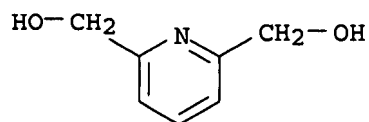
CRN 4767-03-7

CMF C5 H10 O4



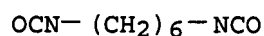
CM 3

CRN 1195-59-1  
CMF C7 H9 N O2



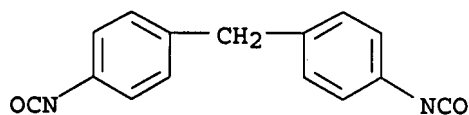
CM 4

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 5

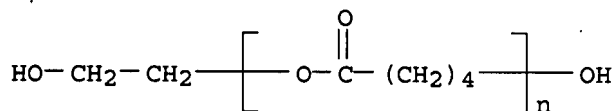
CRN 101-68-8  
CMF C15 H10 N2 O2



RN 603962-72-7 HCAPLUS  
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, α-(2-hydroxyethyl)-ω-hydroxypoly[oxy(1-oxo-1,5-pentanedyl)], 1,1'-methylenebis[4-isocyanatobenzene], octahydro-4,7-methano-1H-indene-2,5-dimethanol and 2,2'-[oxybis(2,1-ethanediyl)oxy]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

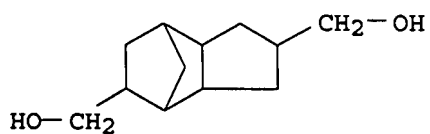
CRN 347850-79-7  
CMF (C5 H8 O2)<sub>n</sub> C2 H6 O2  
CCI PMS



CM 2

CRN 28132-01-6  
CMF C12 H20 O2

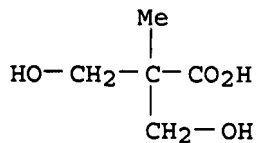




CM 3

CRN 4767-03-7

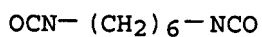
CMF C5 H10 O4



CM 4

CRN 822-06-0

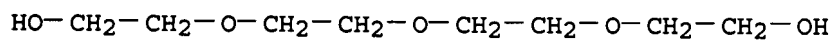
CMF C8 H12 N2 O2



CM 5

CRN 112-60-7

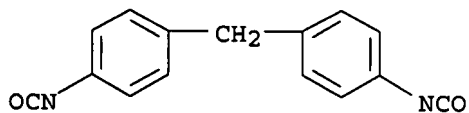
CMF C8 H18 O5



CM 6

CRN 101-68-8

CMF C15 H10 N2 O2

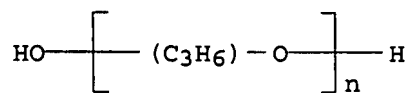


RN 603991-55-5 HCAPLUS

CN Benzenedicarboxylic acid, 3,6(or 4,6)-bis[[(2-hydroxyethyl)amino]carbonyl]-, polymer with 2-aminoethanol, 1,6-diisocyanatohexane, 1,5-diisocyanatonaphthalene, α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-[oxybis(2,1-ethanediyl)]bis[ethanol] (9CI)  
(CA INDEX NAME)

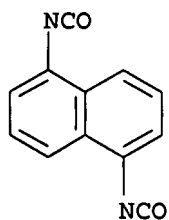
CM 1

CRN 25322-69-4  
 CMF (C3 H6 O)<sub>n</sub> H2 O  
 CCI IDS, PMS



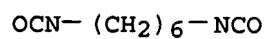
CM 2

CRN 3173-72-6  
 CMF C12 H6 N2 O2



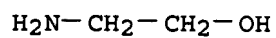
CM 3

CRN 822-06-0  
 CMF C8 H12 N2 O2



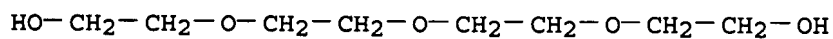
CM 4

CRN 141-43-5  
 CMF C2 H7 N O



CM 5

CRN 112-60-7  
 CMF C8 H18 O5

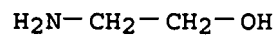


CM 6

CRN 603991-54-4  
 CMF C14 H16 N2 O8  
 CCI IDS

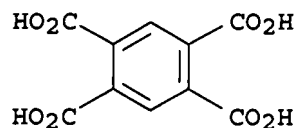
CM 7

CRN 141-43-5  
CMF C2 H7 N O



CM 8

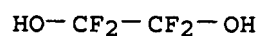
CRN 89-05-4  
CMF C10 H6 O8



RN 603991-56-6 HCAPLUS  
CN 1,2,4,5-Benzenetetracarboxylic acid, 1,4(or 1,5)-bis(2-hydroxyethyl) ester, polymer with 1,6-diisocyanato-hexane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 1,1,2,2-tetrafluoro-1,2-ethanediol (9CI) (CA INDEX NAME)

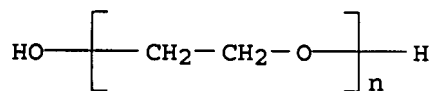
CM 1

CRN 342418-53-5  
CMF C2 H2 F4 O2



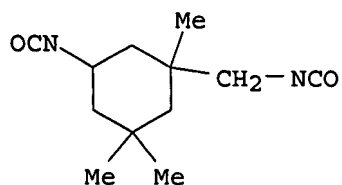
CM 2

CRN 25322-68-3  
CMF (C2 H4 O)<sub>n</sub> H2 O  
CCI PMS



CM 3

CRN 4098-71-9  
CMF C12 H18 N2 O2



CM 4

CRN 822-06-0  
CMF C8 H12 N2 O2

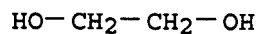


CM 5

CRN 127911-35-7  
CMF C14 H14 O10  
CCI IDS

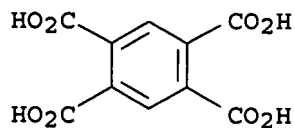
CM 6

CRN 107-21-1  
CMF C2 H6 O2



CM 7

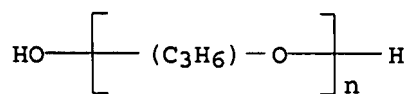
CRN 89-05-4  
CMF C10 H6 O8



RN 603991-57-7 HCAPLUS  
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)], 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-[oxybis(2,1-ethanediyl oxy)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4  
CMF (C3 H6 O)<sub>n</sub> H2 O  
CCI IDS, PMS

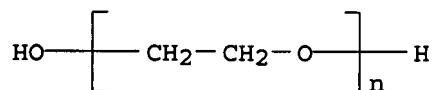


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

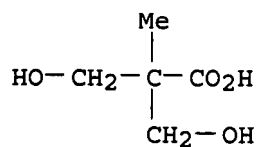
CCI PMS



CM 3

CRN 4767-03-7

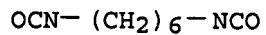
CMF C5 H10 O4



CM 4

CRN 822-06-0

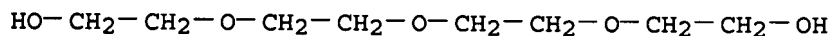
CMF C8 H12 N2 O2



CM 5

CRN 112-60-7

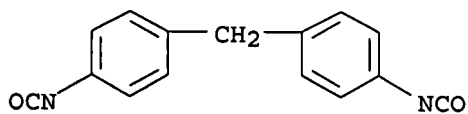
CMF C8 H18 O5



CM 6

CRN 101-68-8

CMF C15 H10 N2 O2

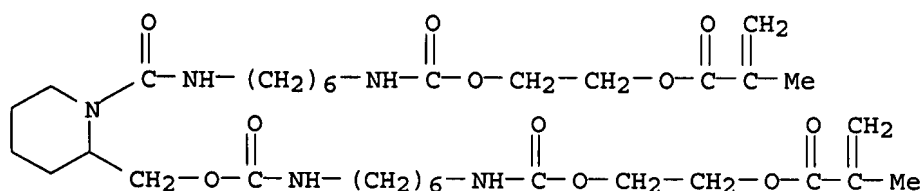


IT 444903-87-1P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pattern layers; lithog. plates containing sp. urethane binders and producing less insol. development scums)

RN 444903-87-1 HCAPLUS  
 CN 11,14-Dioxa-2,9-diazaheptadec-16-enoic acid, 16-methyl-10,15-dioxo-, [1-(16-methyl-1,10,15-trioxo-11,14-dioxa-2,9-diazaheptadec-16-en-1-yl)-2-piperidiny]methyl ester, polymer with 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

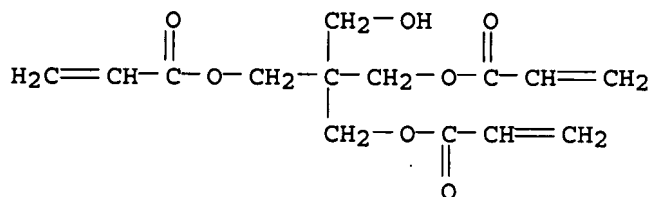
CM 1

CRN 385843-63-0  
 CMF C34 H57 N5 O11



CM 2

CRN 3524-68-3  
 CMF C14 H18 O7



L18 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:707167 HCAPLUS

DOCUMENT NUMBER: 139:247096

TITLE: Bulking agents for papermaking

INVENTOR(S): Doi, Takeshi; Miyamura, Takashi

PATENT ASSIGNEE(S): Daiichi Kogyo Seiyaku Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003253590	A	20030910	JP 2002-52418	20020227
PRIORITY APPLN. INFO.:			JP 2002-52418	20020227

AB The agents contain urethane prepolymers having free NCO groups in an aqueous solution or dispersion and are obtained by reacting polyisocyanates

with hydrophobic polyols having  $\geq 2$  groups reactive to the NCO groups and further modifying the free NCO groups. Thus, heating a 3-methyl-1,5-pentanediol-terephthalic acid copolymer (mol. weight 1000) 100 with trimethylolpropane 6.7, methyldiethanolamine 21 and HMDI 79 at 70° for 120 min gave a urethane prepolymer with free NCO groups 5.05, which was cooled to 50°, combined with p-hydroxybenzoic acid 51, heated at 70° for 120 min, quaternized with di-Et sulfate 22.2, mixed with octyltriethylammonium ethoxysulfate 13 parts and diluted with water to give a cationic polyurethane solution with solids content 20%. Paper made from pulp slurry containing the polyurethane had high bulk.

IT 596098-21-4DP, Adipic acid-1,4-butanediol-1,4-cyclohexanedimethanol-HMDI-methyldiethanolamine-trimethylolpropane copolymer, reaction products with blocking agents 596111-80-7DP, 1,4-Cyclohexanedimethanol-HMDI-isophthalic acid-methyldiethanolamine copolymer, reaction products with blocking agents 596111-82-9DP, Adipic acid-1,4-cyclohexanedimethanol-ethoxylated bisphenol A-HMDI-methyldiethanolamine-PTMG-trimethylolpropane copolymer, reaction products with blocking agents 596111-83-0DP, Carbonic acid-1,4-cyclohexanedimethanol-ethylenediamine-hexane 1,6-diisocyanate-hexanediol-trimethylolpropane copolymer, reaction products with blocking agents 596111-84-1DP, Ethoxylated bisphenol A-HMDI-trimethylolpropane copolymer, reaction products with blocking agents 596111-85-2DP, Adipic acid-1,4-butanediol-1,6-hexanediol-HMDI-trimethylolpropane copolymer, reaction products with blocking agents  
 RN IMF (Industrial manufacture); MOA (Modifier or additive use); TEM  
 CN (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (bulking agents containing cationic blocked water-soluble polyurethanes)

CM 1

CRN 822-06-0  
 CMF C8 H12 N2 O2

OCN—(CH<sub>2</sub>)<sub>6</sub>—NCO

CM 2

CRN 124-04-9  
 CMF C6 H10 O4

HO<sub>2</sub>C—(CH<sub>2</sub>)<sub>4</sub>—CO<sub>2</sub>H

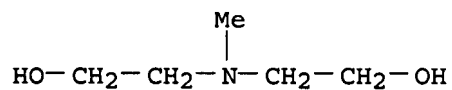
CM 3

CRN 110-63-4  
 CMF C4 H10 O2

HO—(CH<sub>2</sub>)<sub>4</sub>—OH

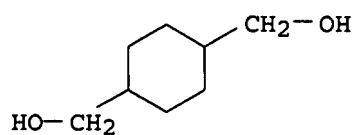
CM 4

CRN 105-59-9  
CMF C5 H13 N O2



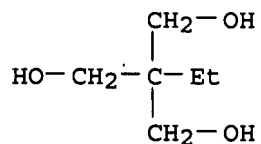
CM 5

CRN 105-08-8  
CMF C8 H16 O2



CM 6

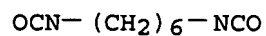
CRN 77-99-6  
CMF C6 H14 O3



RN 596111-80-7 HCAPLUS  
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-cyclohexanedimethanol,  
1,6-diisocyanatohexane and 2,2'-(methylimino)bis[ethanol] (9CI) (CA INDEX  
NAME)

CM 1

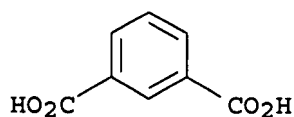
CRN 822-06-0  
CMF C8 H12 N2 O2



CM 2

CRN 121-91-5  
CMF C8 H6 O4

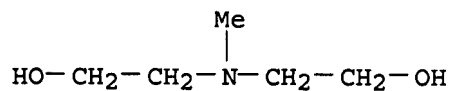




CM 3

CRN 105-59-9

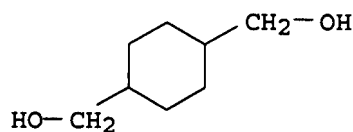
CMF C5 H13 N O2



CM 4

CRN 105-08-8

CMF C8 H16 O2



RN 596111-82-9 HCAPLUS

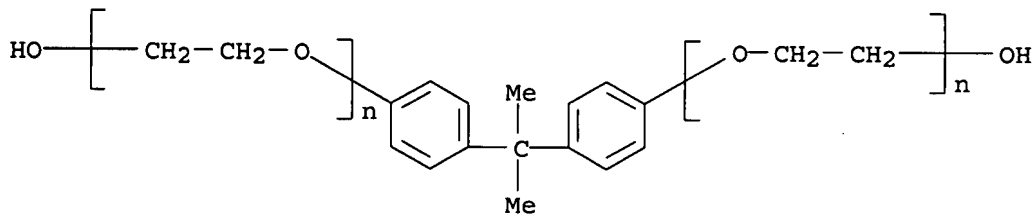
CN Hexanedioic acid, polymer with 1,4-cyclohexanedimethanol, 1,6-diisocyanatohexane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl),  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] and 2,2'-(methylimino)bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 32492-61-8

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H16 O2

CCI PMS

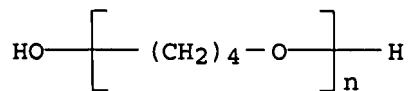


CM 2

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

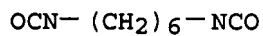
CCI PMS



CM 3

CRN 822-06-0

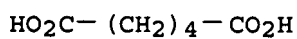
CMF C8 H12 N2 O2



CM 4

CRN 124-04-9

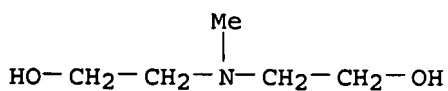
CMF C6 H10 O4



CM 5

CRN 105-59-9

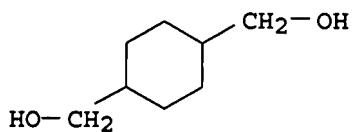
CMF C5 H13 N O2



CM 6

CRN 105-08-8

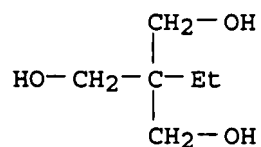
CMF C8 H16 O2



CM 7

CRN 77-99-6

CMF C6 H14 O3



RN 596111-83-0 HCAPLUS

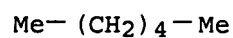
CN Carbonic acid, polymer with 1,4-cyclohexanedimethanol,  
1,6-diisocyanatohexane, 1,2-ethanediamine, 2-ethyl-2-(hydroxymethyl)-1,3-  
propanediol and hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 26762-52-7

CMF C6 H14 O2

CCI IDS

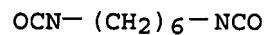


2 ( D1-OH )

CM 2

CRN 822-06-0

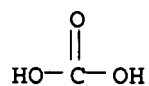
CMF C8 H12 N2 O2



CM 3

CRN 463-79-6

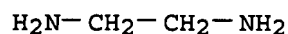
CMF C H2 O3



CM 4

CRN 107-15-3

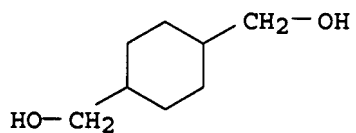
CMF C2 H8 N2



CM 5

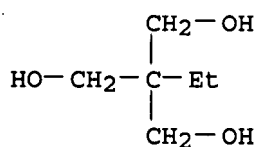
CRN 105-08-8

CMF C8 H16 O2



CM 6

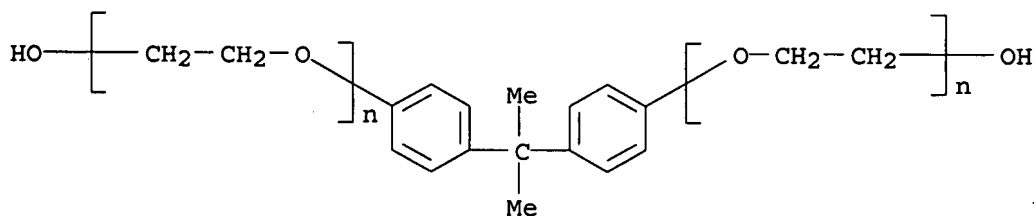
CRN 77-99-6  
CMF C6 H14 O3



RN 596111-84-1 HCAPLUS  
CN 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with  
1,6-diisocyanatohexane and  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-  
phenylene]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX  
NAME)

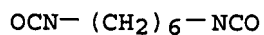
CM 1

CRN 32492-61-8  
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H16 O2  
CCI PMS



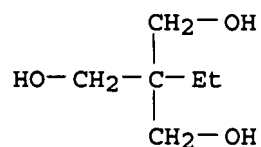
CM 2

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 3

CRN 77-99-6  
CMF C6 H14 O3



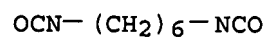
RN 596111-85-2 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0

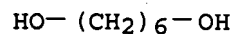
CMF C8 H12 N2 O2



CM 2

CRN 629-11-8

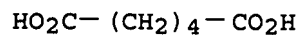
CMF C6 H14 O2



CM 3

CRN 124-04-9

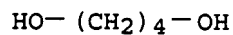
CMF C6 H10 O4



CM 4

CRN 110-63-4

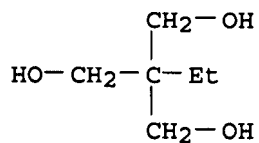
CMF C4 H10 O2



CM 5

CRN 77-99-6

CMF C6 H14 O3

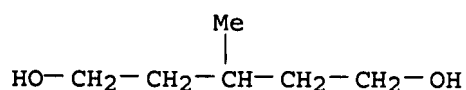


IT 516516-40-8DP, HMDI-methyldiethanolamine-3-methyl-1,5-pentanediol-terephthalic acid-trimethylolpropane copolymer, reaction products with blocking agents  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (bulking agents; bulking agents containing cationic blocked water-soluble polyurethanes)

RN 516516-40-8 HCAPLUS  
 CN 1,4-Benzenedicarboxylic acid, polymer with 1,6-diisocyanatohexane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2,2'-(methylimino)bis[ethanol] and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

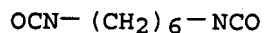
CM 1

CRN 4457-71-0  
 CMF C6 H14 O2



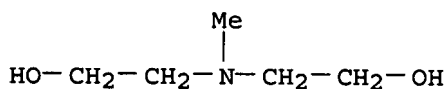
CM 2

CRN 822-06-0  
 CMF C8 H12 N2 O2



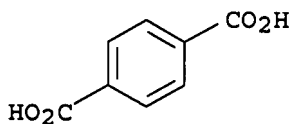
CM 3

CRN 105-59-9  
 CMF C5 H13 N O2



CM 4

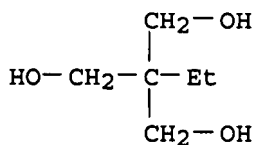
CRN 100-21-0  
 CMF C8 H6 O4



CM 5

CRN 77-99-6

CMF C6 H14 O3



L18 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:465226 HCAPLUS

DOCUMENT NUMBER: 139:154846

TITLE: Hydrogels based on poly(ethylene oxide) and poly(tetramethylene oxide) or poly(dimethyl siloxane). II. Physical properties and bacterial adhesion

AUTHOR(S): Park, Jae Hyung; Bae, You Han

CORPORATE SOURCE: Center for Biomaterials and Biotechnology, Department of Materials Science and Engineering, Kwangju Institute of Science and Technology, Kwangju, 500-712, S. Korea

SOURCE: Journal of Applied Polymer Science (2003), 89(6), 1505-1514

CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: John Wiley &amp; Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To investigate the effects of polymer chemical and topol. on phys. properties and bacterial adhesion, various hydrogels composed of short hydrophilic [poly(ethylene oxide) (PEO)] and hydrophobic blocks were synthesized by polycondensation reactions. DSC and X-ray diffraction anal. confirmed that all of the hydrogels were strongly phase-separated due to incompatibility between PEO and hydrophobic blocks such as poly(tetramethylene oxide) (PTMO) and poly(di-Me siloxane) (PDMS). The crystallization of PEO in the hydrogels was enhanced by the incorporation of longer PEO chains, the adoption of PDMS as a hydrophobic block, and the grafting of monomethoxy poly(ethylene oxide) (MPEO). Compared to Pellethane, the control polymer, the hydrogels exhibited higher Young's moduli and elongations at break, which was attributed to the crystalline domains of PEO and the flexible characteristics of the hydrophobic blocks. The mech. properties of the hydrogels, however, significantly deteriorated when they were hydrated in distilled water; this was primarily ascribed to the disappearance of PEO crystallinity. The water capacity of hydrogels at 37°C in phosphate-buffered saline (PBS) (pH = 7.4) was dominantly dependant on PEO content, which also influenced the thermoneg. swelling behavior. From the bacterial adhesion tests, it was evident that both *S. epidermidis* and *E. coli* adhered to Pellethane much greater than to the hydrogels, regardless of the preadsorption of albumin. Better resistance to bacterial adhesion was observed in hydrogels with longer PEO chains, with PTMO as a hydrophobic block, and with MPEO grafts. The least bacterial adhesion for both species was achieved on MPEO2k-PTMO, a hydrogel with MPEO grafts.

IT 472987-09-0P 473225-12-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (phys. properties and bacterial adhesion of hydrogels based on poly(ethylene oxide) and poly(tetramethylene oxide) or poly(di-Me siloxane))

RN 472987-09-0 HCAPLUS

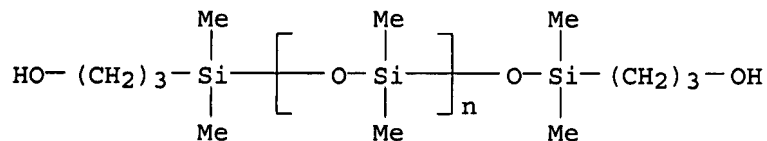
CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[(3-hydroxypropyl)dimethylsilyl]- $\omega$ -[[[(3-hydroxypropyl)dimethylsilyl]oxy]-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 58130-02-2

CMF (C2 H6 O Si)<sub>n</sub> C10 H26 O3 Si2

CCI PMS

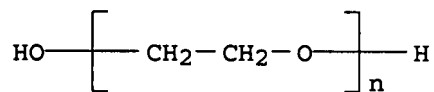


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

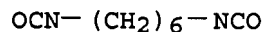
CCI PMS



CM 3

CRN 822-06-0

CMF C8 H12 N2 O2



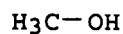
RN 473225-12-6 HCAPLUS

CN Oxirane, polymer with 1,6-diisocyanatohexane and α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl), methyl ether, graft (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O



CM 2

CRN 473225-11-5

CMF (C8 H12 N2 O2 . (C4 H8 O)<sub>n</sub> H2 O . C2 H4 O)<sub>x</sub>

CCI PMS

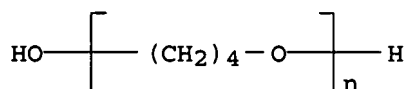
CM 3

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O



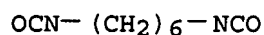
CCI PMS



CM 4

CRN 822-06-0

CMF C8 H12 N2 O2



CM 5

CRN 75-21-8

CMF C2 H4 O



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:367653 HCAPLUS

DOCUMENT NUMBER: 140:111999

TITLE: Synthesis, structure and properties of biodegradable segmented poly(ester urethanes) from polycaprolactone diols and poly(ethylene glycols)

AUTHOR(S): Stirna, Uldis; Tupureina, Velta; Misane, Mariya; Dzene, Anda; Sevastyanova, Irina

CORPORATE SOURCE: Latvian State Inst. Wood Chemistry, Riga, LV-1006, Latvia

SOURCE: Rigas Tehniskas Universitates Zinatniskie Raksti, Serija 1: Materialzinatne un Lietiska Kimija (2002), 4, 89-96

CODEN: RTUZAL

PUBLISHER: Izdevnieciba RTU

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Biodegradable segmented poly(ester urethanes) containing poly(caprolactone diols) and polyethylene glycols as flexible segments with mol. weight of 600 to 4000 and 1,6-hexamethylenediisocyanat as rigid segment and 1,4-butanediol or glycerol monooleate as a chain extender were investigated. Influence of mol. weight of the flexible segments and location of side chains at flexible segments on the mech. and thermal characteristics, hydrophilic-, hydrophobic-properties and biodegradability of the synthesized segmented poly(ester urethanes) is shown.

IT 646533-12-2P, 1,4-Butanediol-initiated poly(ε-caprolactone)-glycerol monooleate-HDI-polyethylene glycol block copolymer  
646991-49-3P, Glycerol monooleate-glycerol monooleate-initiated poly(ε-caprolactone)-HDI-polyethylene glycol block copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses  
(synthesis, structure and properties of biodegradable segmented  
poly(ester urethanes) from polycaprolactone diols and  
poly(ethylene glycols))

RN 646533-12-2 HCAPLUS

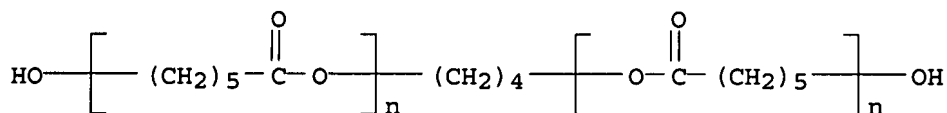
CN 9-Octadecenoic acid (9Z)-, monoester with 1,2,3-propanetriol, polymer with  $\alpha,\alpha'$ -1,4-butanediylbis[ $\omega$ -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]], 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 50974-93-1

$$\text{CMF} \quad (\text{C}_6 \text{ H}_{10} \text{ O}_2)_n \quad (\text{C}_6 \text{ H}_{10} \text{ O}_2)_n \quad \text{C}_4 \text{ H}_{10} \text{ O}_2$$

CCI    PMS

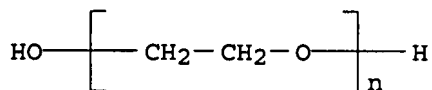


CM 2

CRN 25322-68-3

$$\text{CMF} \quad (\text{C}_2 \text{ H}_4 \text{ O})_n \text{ H}_2 \text{ O}$$

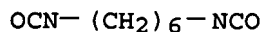
CCI PMS



CM 3

CRN 822-06-0

CMF C8 H12 N2 O2



CM 4

CRN 25496-72-4

CMF C21 H40 O4

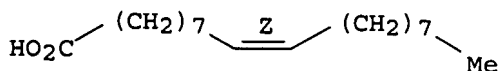
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100	100

CM 5

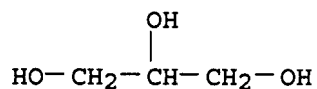
CRN 112-80-1

CMF C18 H34 O2

Double bond geometry as shown.



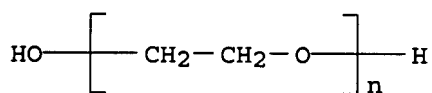
CM 6

CRN 56-81-5  
CMF C3 H8 O3

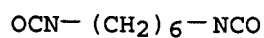
RN 646991-49-3 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, monoester with 1,2,3-propanetriol, polymer with 1,6-diisocyanatohexane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2-oxepanone homopolymer ester with 1,2,3-propanetriol mono-(9Z)-9-octadecenoate (2:1), block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3  
CMF (C2 H4 O)<sub>n</sub> H2 O  
CCI PMS

CM 2

CRN 822-06-0  
CMF C8 H12 N2 O2

CM 3

CRN 342427-04-7  
CMF C21 H40 O4 . 2 (C6 H10 O2)<sub>x</sub>

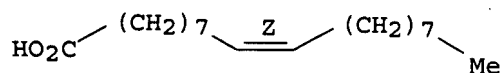
CM 4

CRN 25496-72-4  
CMF C21 H40 O4  
CCI IDS

CM 5

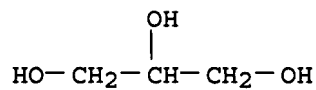
CRN 112-80-1  
CMF C18 H34 O2

Double bond geometry as shown.



CM 6

CRN 56-81-5  
CMF C3 H8 O3

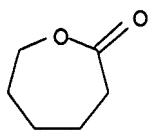


CM 7

CRN 24980-41-4  
CMF (C6 H10 O2)x  
CCI PMS

CM 8

CRN 502-44-3  
CMF C6 H10 O2



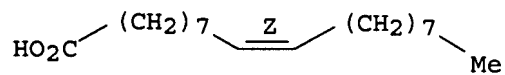
CM 9

CRN 25496-72-4  
CMF C21 H40 O4  
CCI IDS

CM 10

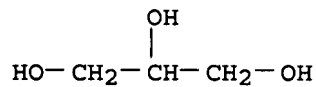
CRN 112-80-1  
CMF C18 H34 O2

Double bond geometry as shown.



CM 11

CRN 56-81-5  
CMF C3 H8 O3



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:101753 HCAPLUS

DOCUMENT NUMBER: 139:235292

TITLE: Hydrogels based on poly(ethylene oxide) and poly(tetramethylene oxide) or poly(dimethyl siloxane). III. In vivo biocompatibility and biostability

AUTHOR(S): Park, Jae Hyung; Bae, You Han

CORPORATE SOURCE: Center for Biomaterials and Biotechnology, Department of Materials Science and Engineering, Kwangju Institute of Science and Technology, Kwangju, 500-712, S. Korea

SOURCE: Journal of Biomedical Materials Research, Part A (2003), 64A(2), 309-319

CODEN: JBMRCH

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To investigate the effects of polymer chemical and topol. (linear or graft copolymer) on in vivo biocompatibility and biostability based on cage implant system, various hydrogels, composed of short hydrophilic [poly(ethylene oxide (PEO))] and hydrophobic block, were prepared by polycondensation reaction. Poly(tetramethylene oxide) (PTMO) or poly(di-Me siloxane) (PDMS) was chosen as a hydrophobic block because of their wide utilization as a biomaterial. By using the specimens retrieved from rats killed after 1, 2, 3, 5, and 7 wk implantation, cellular and material responses were assessed. Most hydrogels showed a comparable value of macrophage d. to Pellethane, control polymer, whereas they did significantly lower foreign body giant cell (FBGC) d. and coverage because of the presence of PEO. However, PEO block length and polymer topol. did not affect macrophage adhesion and FBGC formation in our polymer composition. The hydrogel based on PDMS alone showed significantly lower macrophage d. and FBGC d. than Pellethane, indicating that PDMS plays a role in inhibiting cellular adhesion. The results obtained from gel permeation chromatog. curve and Fourier transform IR spectra exhibited that all the polymers were susceptible to oxidative degradation in vivo. Although Pellethane revealed surface degradation by 5 wk in vivo, hydrogels showed rapid degradation in the bulk within 2 wk because of the penetration of oxidative chems. released from phagocytic cells into PEO domain of phase-separated hydrogels. The more significant degradation was observed in the hydrogels with longer PEO block and PTMO as a hydrophobic block instead of PDMS. It was evident that the minor degradation could be achieved by grafting PEO and adopting PDMS as a hydrophobic block in the hydrogel.

IT 464190-12-3 592544-80-4

RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(in vivo biocompatibility and biostability of hydrogels based on poly(ethylene oxide) and poly(tetramethylene oxide) or poly(di-Me siloxane))

RN 464190-12-3 HCAPLUS

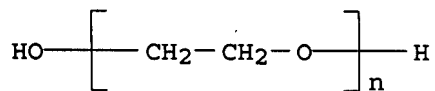
CN Silanediol, dimethyl-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

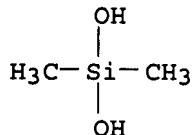
CCI PMS



CM 2

CRN 1066-42-8

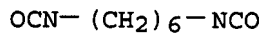
CMF C2 H8 O2 Si



CM 3

CRN 822-06-0

CMF C8 H12 N2 O2



RN 592544-80-4 HCAPLUS

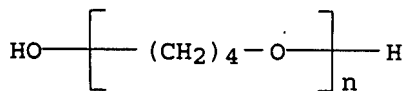
CN Poly(oxy-1,4-butanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with  
1,6-diisocyanatohexane and  $\alpha$ -methyl- $\omega$ -hydroxypoly(oxy-1,2-  
ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

CCI PMS

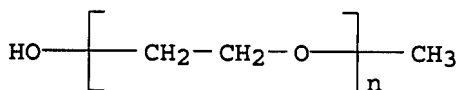


CM 2

CRN 9004-74-4

CMF (C2 H4 O)<sub>n</sub> C H4 O

CCI PMS



CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN- (CH<sub>2</sub>)<sub>6</sub>-NCO

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:975940 HCAPLUS

DOCUMENT NUMBER: 138:57432

TITLE: Treatment agents for improving fiber moisture absorption, fiber products treated therewith, and their manufacture

INVENTOR(S): Hara, Toshinori; Takeda, Keiji

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002371472	A	20021226	JP 2001-176952	20010612
PRIORITY APPLN. INFO.:			JP 2001-176952	20010612

AB The treatment agents comprise urethane divinyl monomers of hydrophobic parts sandwiched between ethylene glycol parts via urethane linkages and further sandwiched between unsatd. double bonds. Thus, polyester fabric was immersed in a water solution containing a urethane divinyl monomer prepared from polyethylene glycol methacrylate and TDI at 100 ° for 30 min to give a uniformly coated fabric with reduced rigidity.

IT 479063-18-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(treatment agents for improving fiber moisture absorption)

RN 479063-18-8 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha,\alpha$ ,-[1,6-hexanediylbis(iminocarbonyl)]bis[ $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

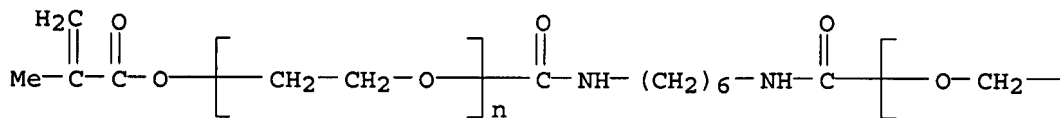
CM 1

CRN 238404-12-1

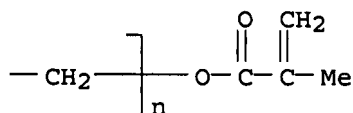
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C16 H24 N2 O6

CCI PMS

PAGE 1-A



PAGE 1-B



L18 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:764879 HCAPLUS

DOCUMENT NUMBER: 139:22565

TITLE: The effect of location of side chains in segmented poly(ester urethanes) on their hydrolytic and enzymatic degradation

AUTHOR(S): Stirna, U. K.; Tupureina, V. V.; Misane, M. M.; Dzene, A. V.; Sevast'yanova, I. V.

CORPORATE SOURCE: Latv. Gos. Inst. Khim. Drevesiny, Riga, LV-1006, Latvia

SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (2002), 44(5), 824-833

CODEN: VSSBEE; ISSN: 1023-3091

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Segmented poly(ester urethanes) were synthesized using polycaprolactone diols with Mn .apprx. 1500 and 3500, hexamethylene diisocyanate, and bis(cyclohexyl methane)-4-isocyanate, as well as the mixts. of 2,4- and 2,6-tolyene diisocyanates and a chain extender. The effect of (C17H33COO-) side chains located at flexible, rigid, or both segments of poly(urethanes) on their structure, thermal properties, and hydrolytic stability was studied by DSC and NMR and IR spectroscopy. Films of poly(urethanes) containing side chains at flexible segments were shown to be more hydrophobic. Side chains attached to the flexible segment or both segments reduce the hydrolytic stability of films in a 10% solution of NaOH or under the action of Candida Rugosa lipase in a 0.1 N phosphate buffer solution. Side chains located at the rigid segment have an insignificant effect on the rate of degradation

IT 537039-00-2P 537039-05-7P 537039-08-0P

537047-72-6P, 1,4-Butanediol-glycerol monooleate-initiated polycaprolactone-1,6-hexamethylenediisocyanate block copolymer

537047-73-7P, Glycerol monooleate-initiated poly(ε-caprolactone)-glycerol monooleate-1,6-hexamethylene diisocyanate block copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(effect of location of side chains in segmented poly(ester urethanes) on their hydrolytic and enzymic degradation)

RN 537039-00-2 HCAPLUS

CN 1,4-Butanediol, polymer with α,α'-1,4-butanediylbis[ω-hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]] and 1,6-diisocyanatohexane, block  
(CA INDEX NAME)

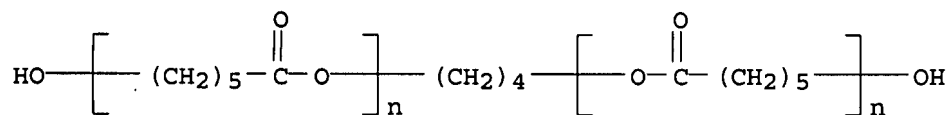
CM 1

CRN 50974-93-1

CMF (C6 H10 O2)n (C6 H10 O2)n C4 H10 O2

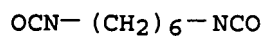
CCI PMS





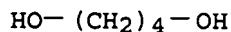
CM 2

CRN 822-06-0  
CMF C8 H12 N2 O2



CM 3

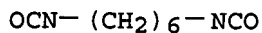
CRN 110-63-4  
CMF C4 H10 O2



RN 537039-05-7 HCAPLUS  
CN 9-Octadecenoic acid (9Z)-, monoester with 1,2,3-propanetriol, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0  
CMF C8 H12 N2 O2



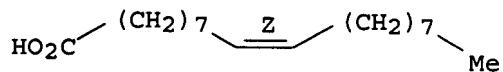
CM 2

CRN 25496-72-4  
CMF C21 H40 O4  
CCI IDS

CM 3

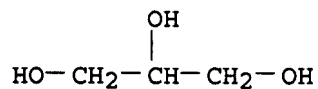
CRN 112-80-1  
CMF C18 H34 O2

Double bond geometry as shown.



CM 4

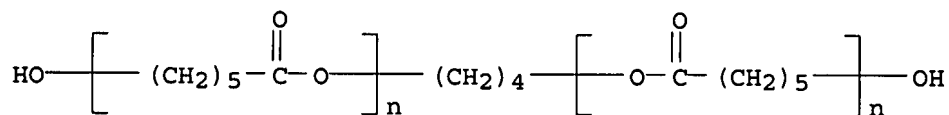
CRN 56-81-5  
CMF C3 H8 O3



RN 537039-08-0 HCAPLUS  
 CN 9-Octadecenoic acid (9Z)-, monoester with 1,2,3-propanetriol, polymer with  $\alpha, \alpha'$ -1,4-butanediylbis[ $\omega$ -hydroxypoly[oxy(1-oxo-1,6-hexanediyl)]] and 1,6-diisocyanatohexane, block (9CI) (CA INDEX NAME)

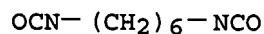
CM 1

CRN 50974-93-1  
 CMF (C6 H10 O2)<sub>n</sub> (C6 H10 O2)<sub>n</sub> C4 H10 O2  
 CCI PMS



CM 2

CRN 822-06-0  
 CMF C8 H12 N2 O2



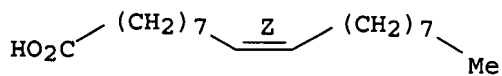
CM 3

CRN 25496-72-4  
 CMF C21 H40 O4  
 CCI IDS

CM 4

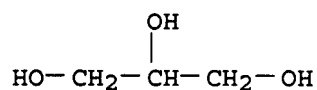
CRN 112-80-1  
 CMF C18 H34 O2

Double bond geometry as shown.



CM 5

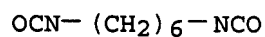
CRN 56-81-5  
 CMF C3 H8 O3



RN 537047-72-6 HCAPLUS  
 CN 2-Oxepanone, homopolymer, ester with 1,2,3-propanetriol  
 mono-(9Z)-9-octadecenoate (2:1), polymer with 1,4-butanediol and  
 1,6-diisocyanatohexane, block (9CI) (CA INDEX NAME)

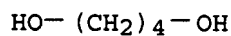
CM 1

CRN 822-06-0  
 CMF C8 H12 N2 O2



CM 2

CRN 110-63-4  
 CMF C4 H10 O2



CM 3

CRN 342427-04-7  
 CMF C21 H40 O4 . 2 (C6 H10 O2)x

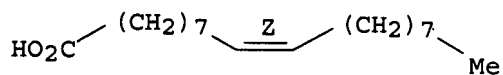
CM 4

CRN 25496-72-4  
 CMF C21 H40 O4  
 CCI IDS

CM 5

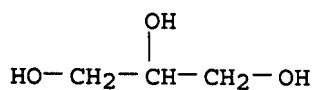
CRN 112-80-1  
 CMF C18 H34 O2

Double bond geometry as shown.



CM 6

CRN 56-81-5  
 CMF C3 H8 O3

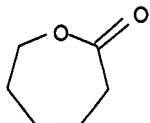


CM 7

CRN 24980-41-4  
 CMF (C6 H10 O2)x  
 CCI PMS

CM 8

CRN 502-44-3  
 CMF C6 H10 O2



RN 537047-73-7 HCAPLUS  
 CN 9-Octadecenoic acid (9Z)-, monoester with 1,2,3-propanetriol, polymer with 1,6-diisocyanatohexane and 2-oxepanone homopolymer ester with 1,2,3-propanetriol mono-(9Z)-9-octadecenoate (2:1), block (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0  
 CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 2

CRN 342427-04-7  
 CMF C21 H40 O4 . 2 (C6 H10 O2)x

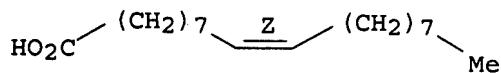
CM 3

CRN 25496-72-4  
 CMF C21 H40 O4  
 CCI IDS

CM 4

CRN 112-80-1  
 CMF C18 H34 O2

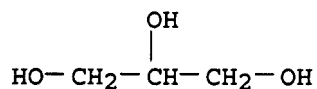
Double bond geometry as shown.



CM 5

CRN 56-81-5

CMF C3 H8 O3

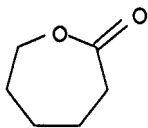


CM 6

CRN 24980-41-4  
 CMF (C6 H10 O2)x  
 CCI PMS

CM 7

CRN 502-44-3  
 CMF C6 H10 O2



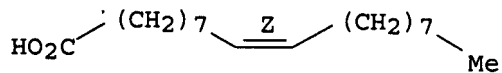
CM 8

CRN 25496-72-4  
 CMF C21 H40 O4  
 CCI IDS

CM 9

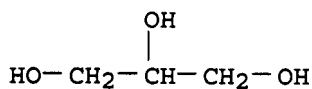
CRN 112-80-1  
 CMF C18 H34 O2

Double bond geometry as shown.



CM 10

CRN 56-81-5  
 CMF C3 H8 O3



L18 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2002:747665 HCAPLUS  
 DOCUMENT NUMBER: 137:283959

TITLE: Skin-lightening compositions containing associative polymer thickeners  
 INVENTOR(S): Yoshida, Katsunori; Hariki, Toshio; Inoue, Haruhiko; Nakamura, Tadashi  
 PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002284664	A	20021003	JP 2001-94505	20010329
PRIORITY APPLN. INFO.:			JP 2001-94505	20010329

AB The invention relates to a skin-lightening composition containing a water-soluble skin-lightening agent and an associative polymer thickener 0.1-10 %, wherein the composition has improved use feel without causing stickiness due to the skin-lightening agent. A hydrophobic polyether urethane was prepared from Et[(OEt)120OH]2, OH(EtO)20-2-dodecyldodecyl, and hexamethylene-(NCO)2. The obtained associative polymer thickener was combined at 2 % with ascorbic acid 2-glucoside 2, 1,3-butylene glycol 2, dipropylene glycol 3, citric acid 0.02, sodium citrate 0.08, EDTA 0.02, Me paraben 0.15, phenoxyethanol 0.1, ethanol 5, KOH q.s., and water balance to 100 % to make a skin-lightening cosmetic composition

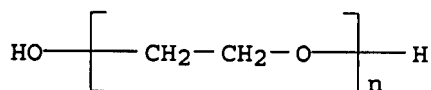
IT 464190-12-3P, Dimethylsilanediol-Hexamethylene diisocyanate-polyethylene glycol copolymer  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (skin-lightening comps. containing associative polymer thickeners)

RN 464190-12-3 HCAPLUS

CN Silanediol, dimethyl-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

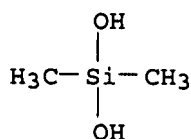
CM 1

CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

CRN 1066-42-8  
 CMF C2 H8 O2 Si



CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

L18 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:464191 HCAPLUS

DOCUMENT NUMBER: 137:21036

TITLE: Alkoxysilyl-containing hydrophilic polyurethanes with good water stability

INVENTOR(S): Saiuchi, Naofumi

PATENT ASSIGNEE(S): Daiichi Kogyo Seiyaku Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002173517	A	20020621	JP 2000-368265	20001204
PRIORITY APPLN. INFO.:			JP 2000-368265	20001204

AB The polyurethanes, having content of ethylene oxide of 20-90%, have urethane linkages obtained from NCO end groups of urethane prepolymers containing hydrophilic polyether polyols and OH end groups of hydrophobic polymer polyols (mol. weight  $\geq 400$ ) and another urethane linkages obtained from residual OH end groups of the hydrophobic polyether polyols and alkoxysilane compds. Thus, NCO-terminated HDI-polyethylene glycol copolymer was polymerized with polypropylene glycol glycerin ether, reacted with  $\gamma$ -isocyanatopropyltrimethoxysilane, and diluted with water to give a 20% polyurethane solution showing no apparent change at room temperature for 30 days. Then, Elastron CAT 21 (organic tin catalyst) was added to the solution, applied on a release film, and dried to give a film showing tensile strength 14 kg/m<sup>2</sup>.

IT 434938-77-9P, HDI-polyethylene glycol-polypropylene glycol glycerin ether copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane 434938-80-4P, HDI-polyethylene glycol-polypropylene glycol ethylene glycol ether block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane 434938-82-6P 434938-84-8P, Adipic acid-HDI-3-methyl-1,5-pentanediol-polyethylene glycol block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane 434938-87-1P, Dimethylsilanediol-HDI-polyethylene glycol block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane 434938-90-6P, Ethylene oxide-propylene oxide copolymer glycerin ether-HDI-polypropylene glycol ethylene glycol ether block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(alkoxysilyl-containing hydrophilic polyurethanes with good water stability)

RN 434938-77-9 HCAPLUS

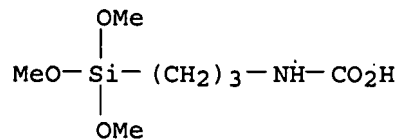
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ $\omega$ -hydroxy-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)],

[3-(trimethoxysilyl)propyl]carbamate (9CI) (CA INDEX NAME)

CM 1

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 2

CRN 139321-13-4

CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3 . (C2 H4 O)n H2 O)x

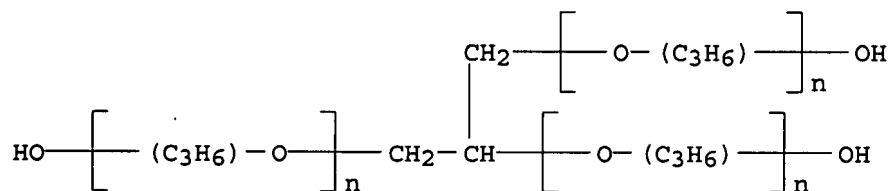
CCI PMS

CM 3

CRN 25791-96-2

CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3

CCI IDS, PMS

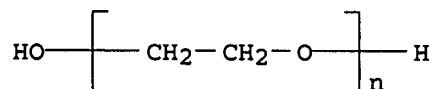


CM 4

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



CM 5

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

RN 434938-80-4 HCAPLUS

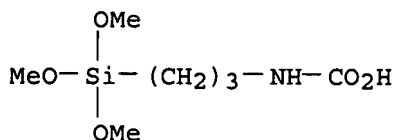


CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha,\alpha'$ -1,2-ethanediylbis[ $\omega$ -hydroxy-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), [3-(trimethoxysilyl)propyl]carbamate, block (9CI) (CA INDEX NAME)

CM 1

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 2

CRN 434938-79-1

CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . .(C2 H4 O)n H2 O)x

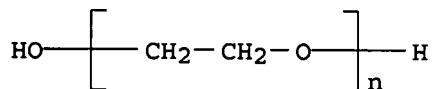
CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS

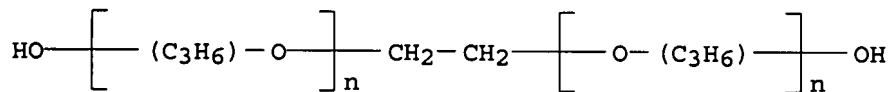


CM 4

CRN 9051-48-3

CMF (C3 H6 O)n (C3 H6 O)n C2 H6 O2

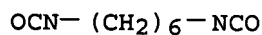
CCI IDS, PMS



CM 5

CRN 822-06-0

CMF C8 H12 N2 O2



RN 434938-82-6 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha,\alpha'$ -1,2-ethanediylbis[ $\omega$ -hydroxy-, polymer with 1,6-diisocyanatohexane and

$\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl),  
[3-(trimethoxysilyl)propyl]carbamate, block, homopolymer (9CI) (CA INDEX  
NAME)

CM 1

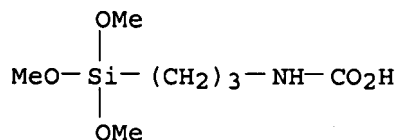
CRN 434938-80-4

CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . (C2 H4 O)n H2 O)x .  
x C7 H17 N O5 Si

CM 2

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 3

CRN 434938-79-1

CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . (C2 H4 O)n H2  
O)x

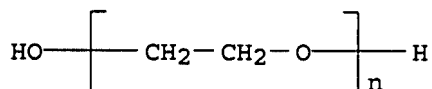
CCI PMS

CM 4

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS

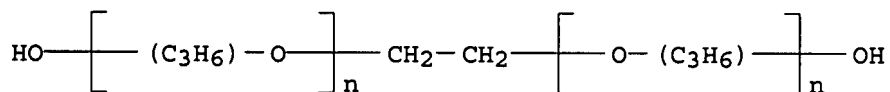


CM 5

CRN 9051-48-3

CMF (C3 H6 O)n (C3 H6 O)n C2 H6 O2

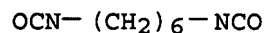
CCI IDS, PMS



CM 6

CRN 822-06-0

CMF C8 H12 N2 O2



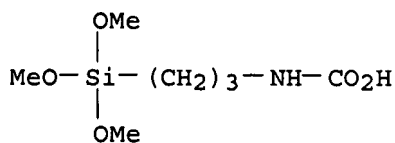
RN 434938-84-8 HCAPLUS

CN Hexanedioic acid, polymer with 1,6-diisocyanatohexane,  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and  
 3-methyl-1,5-pentanediol, [3-(trimethoxysilyl)propyl]carbamate, block  
 (9CI) (CA INDEX NAME)

CM 1

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 2

CRN 434938-83-7

CMF (C8 H12 N2 O2 . C6 H14 O2 . C6 H10 O4 . (C2 H4 O)<sub>n</sub> H2 O)<sub>x</sub>

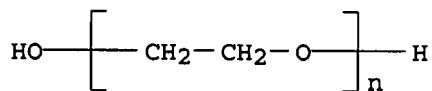
CCI PMS

CM 3

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

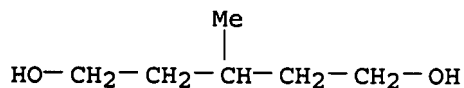
CCI PMS



CM 4

CRN 4457-71-0

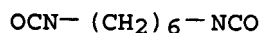
CMF C6 H14 O2



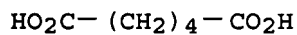
CM 5

CRN 822-06-0

CMF C8 H12 N2 O2



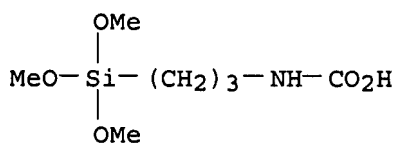
CM 6

CRN 124-04-9  
CMF C6 H10 O4

RN 434938-87-1 HCAPLUS

CN Silanediol, dimethyl-, polymer with 1,6-diisocyanatohexane and  
α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl),  
[3-(trimethoxysilyl)propyl]carbamate, block (9CI) (CA INDEX NAME)

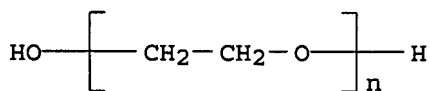
CM 1

CRN 169542-35-2  
CMF C7 H17 N O5 Si

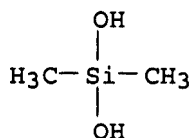
CM 2

CRN 434938-86-0  
CMF (C8 H12 N2 O2 . C2 H8 O2 Si . (C2 H4 O)n H2 O)x  
CCI PMS

CM 3

CRN 25322-68-3  
CMF (C2 H4 O)n H2 O  
CCI PMS

CM 4

CRN 1066-42-8  
CMF C2 H8 O2 Si

CM 5

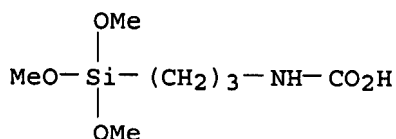
CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

RN 434938-90-6 HCAPLUS  
CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,6-diisocyanatohexane and  $\alpha,\alpha'$ -1,2-ethanediylbis[ $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)]]], [3-(trimethoxysilyl)propyl]carbamate, block (9CI) (CA INDEX NAME)

CM 1

CRN 169542-35-2  
CMF C7 H17 N O5 Si

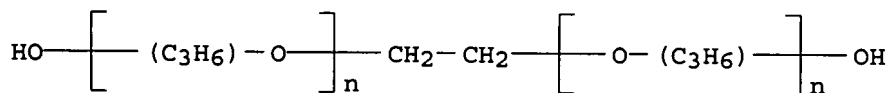


CM 2

CRN 434938-89-3  
CMF (C8 H12 N2 O2 . C3 H8 O3 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . 3 (C3 H6 O . C2 H4 O)x)x  
CCI PMS

CM 3

CRN 9051-48-3  
CMF (C3 H6 O)n (C3 H6 O)n C2 H6 O2  
CCI IDS, PMS



CM 4

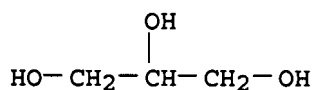
CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 5

CRN 9082-00-2  
CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O)x

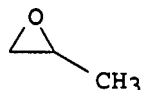
CM 6

CRN 56-81-5  
CMF C3 H8 O3

CM 7

CRN 9003-11-6  
CMF (C3 H6 O . C2 H4 O)x  
CCI PMS

CM 8

CRN 75-56-9  
CMF C3 H6 O

CM 9

CRN 75-21-8  
CMF C2 H4 O

IT 434938-78-0P, HDI-polyethylene glycol-polypropylene glycol glycerin ether copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane, homopolymer 434938-85-9P, Adipic acid-HDI-3-methyl-1,5-pentanediol-polyethylene glycol block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane, homopolymer 434938-88-2P, Dimethylsilanediol-HDI-polyethylene glycol block copolymer, carbamate with  $\gamma$ -isocyanatopropyltrimethoxysilane, homopolymer 434938-91-7P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkoxysilyl-containing hydrophilic polyurethanes with good water stability)

RN 434938-78-0 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha, \alpha', \alpha''$ -1,2,3-propanetriyltris[ $\omega$ -hydroxy-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), [3-(trimethoxysilyl)propyl]carbamate, homopolymer (9CI) (CA INDEX NAME)

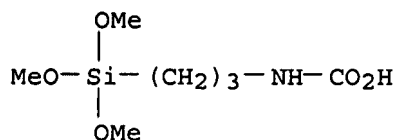
CM 1

CRN 434938-77-9

CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3 . (C2 H4 O)n H2 O)x . x C7 H17 N O5 Si

CM 2

CRN 169542-35-2  
 CMF C7 H17 N O5 Si

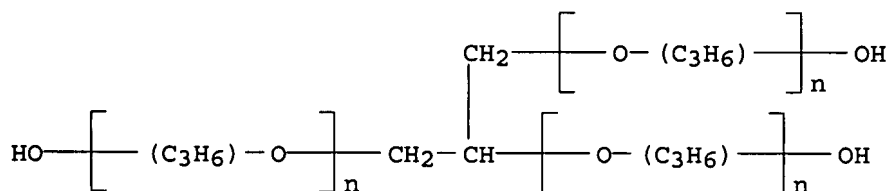


CM 3

CRN 139321-13-4  
 CMF (C8 H12 N2 O2 . (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3 . (C2  
 H4 O)n H2 O)x  
 CCI PMS

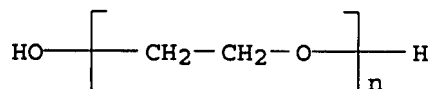
CM 4

CRN 25791-96-2  
 CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C3 H8 O3  
 CCI IDS, PMS



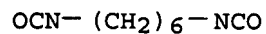
CM 5

CRN 25322-68-3  
 CMF (C2 H4 O)n H2 O  
 CCI PMS



CM 6

CRN 822-06-0  
 CMF C8 H12 N2 O2



RN 434938-85-9 HCAPLUS  
 CN Hexanedioic acid, polymer with 1,6-diisocyanatohexane,

$\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and  
3-methyl-1,5-pentanediol, [3-(trimethoxysilyl)propyl]carbamate, block,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

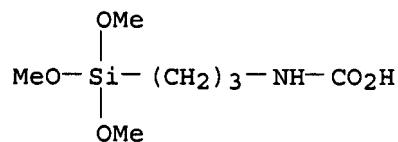
CRN 434938-84-8

CMF (C8 H12 N2 O2 . C6 H14 O2 . C6 H10 O4 . (C2 H4 O)n H2 O)x . x C7 H17  
N O5 Si

CM 2

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 3

CRN 434938-83-7

CMF (C8 H12 N2 O2 . C6 H14 O2 . C6 H10 O4 . (C2 H4 O)n H2 O)x

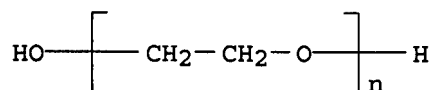
CCI PMS

CM 4

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

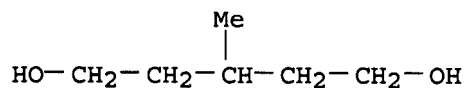
CCI PMS



CM 5

CRN 4457-71-0

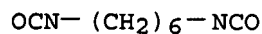
CMF C6 H14 O2



CM 6

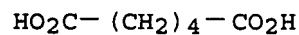
CRN 822-06-0

CMF C8 H12 N2 O2





CM 7

CRN 124-04-9  
CMF C6 H10 O4

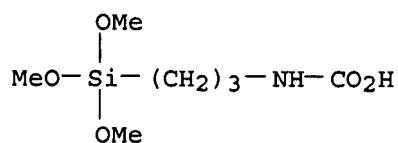
RN 434938-88-2 HCAPLUS  
CN Silanediol, dimethyl-, polymer with 1,6-diisocyanatohexane and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), [3-(trimethoxysilyl)propyl]carbamate, block, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 434938-87-1  
CMF (C8 H12 N2 O2 . C2 H8 O2 Si . (C2 H4 O)n H2 O)x . x C7 H17 N O5 Si

CM 2

CRN 169542-35-2  
CMF C7 H17 N O5 Si

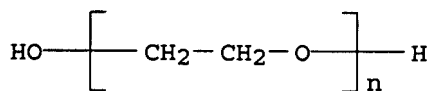


CM 3

CRN 434938-86-0  
CMF (C8 H12 N2 O2 . C2 H8 O2 Si . (C2 H4 O)n H2 O)x  
CCI PMS

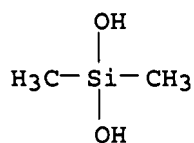
CM 4

CRN 25322-68-3  
CMF (C2 H4 O)n H2 O  
CCI PMS



CM 5

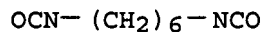
CRN 1066-42-8  
CMF C2 H8 O2 Si



CM 6

CRN 822-06-0

CMF C8 H12 N2 O2



RN 434938-91-7 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,6-diisocyanatohexane and  $\alpha,\alpha'$ -1,2-ethanediyldis[ $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyldis[3-(trimethoxysilyl)propyl]carbamate, block, homopolymer (9CI) (CA INDEX NAME)

CM 1

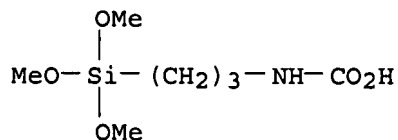
CRN 434938-90-6

CMF (C8 H12 N2 O2 . C3 H8 O3 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . 3 (C3 H6 O . C2 H4 O)x)x . x C7 H17 N O5 Si

CM 2

CRN 169542-35-2

CMF C7 H17 N O5 Si



CM 3

CRN 434938-89-3

CMF (C8 H12 N2 O2 . C3 H8 O3 . (C3 H6 O)n (C3 H6 O)n C2 H6 O2 . 3 (C3 H6 O . C2 H4 O)x)x

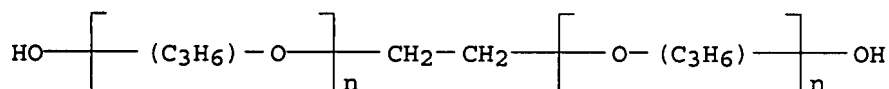
CCI PMS

CM 4

CRN 9051-48-3

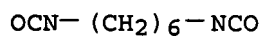
CMF (C3 H6 O)n (C3 H6 O)n C2 H6 O2

CCI IDS, PMS



CM 5

CRN 822-06-0  
CMF C8 H12 N2 O2

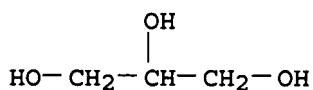


CM 6

CRN 9082-00-2  
CMF C3 H8 O3 . 3 (C3 H6 O . C2 H4 O)x

CM 7

CRN 56-81-5  
CMF C3 H8 O3

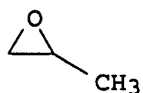


CM 8

CRN 9003-11-6  
CMF (C3 H6 O . C2 H4 O)x  
CCI PMS

CM 9

CRN 75-56-9  
CMF C3 H6 O



CM 10

CRN 75-21-8  
CMF C2 H4 O



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ACCESSION NUMBER: 2001:922335 HCAPLUS

DOCUMENT NUMBER: 137:174792

TITLE: In vitro degradation of novel medical biodegradable  
aliphatic polyurethanes based on ε-  
caprolactone and Pluronics with various

hydrophilicities  
 AUTHOR(S): Gorna, Katarzyna; Gogolewski, Sylwester  
 CORPORATE SOURCE: Polymer Research, AO/ASIF Research Institute, Davos,  
 CH-7270, Switz.  
 SOURCE: Polymer Degradation and Stability (2001), Volume Date  
 2002, 75(1), 113-122  
 CODEN: PDSTDW; ISSN: 0141-3910  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Linear biodegradable polyurethanes with varying ratios of the hydrophilic-to-hydrophobic segment were obtained in the study. The hydrophilic segment was based on poly(ethylene oxide-propylene oxide-ethylene oxide) diols (Pluronic). The hydrophobic segment was based on poly( $\epsilon$ -caprolactone) diol. Viscosity-average mol. wts. and the polydispersity index of the polyurethanes were in the range of 38.000-85.000 Da and 1.2-3.2, resp. The polymers absorbed up 3.9% of water depending on the chemical composition. Tensile strength, Young's modulus and elongation at break of the polymers were in the range of 11-46 MPa, 4.5-91 MPa and 370-960%, and the glass transition and soft segment melting temps. were -60 to -21.5° and 30-55°, resp. Degradation in vitro caused 2% mass loss, 15-80% reduction of mol. weight and slight reduction of polydispersity at 48 wk. The extent of degradation was dependent on the polymer composition and the hydrophilic segment content. At a comparable degradation time the materials containing Pluronic were degraded most. Degradation of polyurethanes caused insignificant changes of the pH of the medium.

IT 446881-12-5 446881-14-7  
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (in vitro degradation of novel medical biodegradable aliphatic polyurethanes based on caprolactone and Pluronic with various hydrophilicities)

RN 446881-12-5 HCAPLUS  
 CN D-Glucitol, 1,4:3,6-dianhydro-, polymer with 1,6-diisocyanatohexane and PCL 530 (9CI) (CA INDEX NAME)

CM 1

CRN 392687-58-0  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

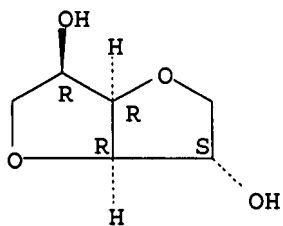
CRN 822-06-0  
 CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 3

CRN 652-67-5  
 CMF C6 H10 O4

Absolute stereochemistry. Rotation (+).



RN 446881-14-7 HCAPLUS  
 CN 1-Butanol, 2-amino-, polymer with 1,6-diisocyanatohexane, methyloxirane, oxirane and PCL 2000 (9CI) (CA INDEX NAME)

CM 1

CRN 112354-17-3  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

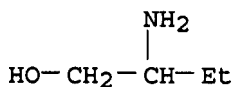
CM 2

CRN 822-06-0  
 CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

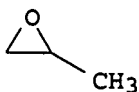
CM 3

CRN 96-20-8  
 CMF C4 H11 N O



CM 4

CRN 75-56-9  
 CMF C3 H6 O



CM 5

CRN 75-21-8  
 CMF C2 H4 O



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL

L9 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:609895 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 133:322487  
TITLE: Behavior of branched-terminal, hydrophobe-modified, ethoxylated urethanes  
AUTHOR(S): Elliott, Peter T.; Xing, Linlin; Wetzal, Wylie H.; Glass, J. Edward  
CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
SOURCE: ACS Symposium Series (2000), 765(Associative Polymers in Aqueous Media), 163-178  
CODEN: ACSMC8; ISSN: 0097-6156  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Hydrophobically-modified, ethoxylated urethanes of narrow mol. weight (uni-HEURs) were prepared and the effect of hydrophobic group structure on solution properties was determined. A linear hydrophobe (C12H25) and a branched hydrophobe (b-(C16H34)), of comparable hydrophobicity, were coupled to the ends of a 29,500 Mn polyoxyethylene (POE) via a real telechelic process using 4,4'-methylenebis(cyclohexyl isocyanate), H12MDI. The aggregation number of these model uni-HEUR solns. increase with polymer concentration and plateau at high polymer concns. However, at higher concns. the solution viscosity of uni-HEUR thickeners with branched hydrophobes is higher than that of uni-HEUR with linear hydrophobes of the same effective carbon length, but lower than that of linear hydrophobes with an equivalent number of carbon units per linear chain. It is the number of hydrophobes in the aggregate and not the number of chain ends that is important in building solution viscosity. This is reflected by the longer relaxation time of the branched terminal hydrophobe uniHEUR in oscillatory rheol. studies. When H12MDI was used to couple larger hydrophobes to POE, the solution viscosity increased dramatically and soft gels were observed; therefore, the influence of branching was examined in greater detail using hexamethylene diisocyanate (HDI) to couple larger branched hydrophobes. Multiple branched hydrophobes in groups of six, varying in size from C10H21 to C16H33, were prepared. These hydrophobe groupings were used to prepare terminal position and comb architecture uniHEURs.

IT 822-06-0DP, HDI, block polymers with PEO and alcs. and dialkylamines and epoxides  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(effect of hydrophobe chain length and branching on rheol. behavior of branched-terminal hydrophobe-modified ethoxylated urethane associative thickeners)

RN 822-06-0 HCAPLUS  
CN Hexane, 1,6-diisocyanato- (CA INDEX NAME)

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:546614 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 129:231265  
TITLE: Branched HDI HEUR's. Model compound study and preliminary rheology data  
AUTHOR(S): Anderson, C. D.; Wetzal, Wylie H.; Glass, J. E.  
CORPORATE SOURCE: Dep. Polymers Coatings, North Dakota State Univ., Fargo, ND, 58105, USA

SOURCE: Polymeric Materials Science and Engineering (1998),  
79, 411-412  
CODEN: PMSDGG; ISSN: 0743-0515  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The use of Hexane Diisocyanate (HDI) in place of methylene bis(4-cyclohexyl isocyanate) H12MDI was investigated to help elucidate single discrete isomer, which will enhance the removal of the urea byproduct and provide cleaner products. In addition, the contribution of HDI to be effective hydrophobe size will be significantly less. The affects of anionic surfactant concentration on the oscillatory and shear rate profiles were investigated at levels above, below, and equal to the viscosity maximum. Current results were compared to previous results obtained using H12MDI as the diisocyanate coupler. HDI HEURs (hydrophobic ethoxylated urethane) did not exhibit thixotropy, in contrast to the highly thixotropic H12MDI HEURs. In addition, HDI HEURs had shorter relaxation times and smaller storage modulus ( $G'$ ) indicating a less efficient network formation and faster diffusion rates than the H12MDI HEURs.

IT 822-06-0, HDI  
RL: PRP (Properties)  
(model compound study and preliminary rheol. data for HDI-based hydrophobic ethoxylated polyurethanes)

RN 822-06-0 HCAPLUS

CN Hexane, 1,6-diisocyanato- (CA INDEX NAME)

OCN-  $(CH_2)_6-NCO$

L9 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:559226 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 121:159226

TITLE: Synthesis, characterization, and solution rheology of model hydrophobically-modified, water-soluble ethoxylated urethanes

AUTHOR(S): Lundberg, David J.; Brown, Richard G.; Glass, J. Edward; Eley, Richard R.

CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA

SOURCE: Langmuir (1994), 10(9), 3027-34  
CODEN: LANGD5; ISSN: 0743-7463

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis, characterization, and solution rheol. of well-characterized hydrophobically-modified, ethoxylated urethane (HEUR) water-soluble polymers are described for two types of model HEURs: linear poly(oxyethylene) of  $M_n = 26\,186$  with terminal hydrophobes of different sizes, and terminal hydrophobe groups separated by smaller oxyethylene spacing around a larger internal hydrophobe. In the first series, a terminal isocyanate telechelic prepolymer of poly(oxyethylene) is prepared and reacted with amine and alc. containing hydrophobes of variable size. In the second, terminal hydrophobe HEURs varying in geometry around an internal hydrophobe are synthesized by a one-step addition of an ethoxylated nonylphenol surfactant to a diisocyanate or an isocyanato functional biuret or isocyanurate. Low shear rate viscosities and oscillatory responses of HEUR solns. are examined, alone and in the presence of anionic and nonionic surfactants. HEUR solns. exhibit a maximum in viscosity with increasing surfactant concns. with both anionic and nonionic surfactants. The viscoelasticity of the solution in the area of the



viscosity maximum and factors influencing the magnitude of the viscosity increase are addressed. The surfactant concentration necessary to achieve the viscosity maximum is observed to depend on the concentration and architecture of the HEUR as well as the structure of the surfactant. Differences in the phase separation behavior of aqueous solns. also are observed

IT 822-06-ODP, reaction products with poly(ethylene glycol),  
alkylamine or nonylphenol-modified  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization and rheol. of water-soluble elastomeric)  
RN 822-06-0 HCAPLUS  
CN Hexane, 1,6-diisocyanato- (CA INDEX NAME)

OCN- (CH<sub>2</sub>)<sub>6</sub>-NCO

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	1.26	44.68
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CA SUBSCRIBER PRICE	0.00	-2.34

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FULL ESTIMATED COST	0.06	44.74
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CA SUBSCRIBER PRICE	0.00	-2.34

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L11 43 L10

=> fil hcaplus

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FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
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L16 ANSWER 1 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:145515 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 137:109559

TITLE: Synthesis of ethoxylated urethane and modification with cetyl alcohol as thickener

AUTHOR(S): Barmar, Mohammad; Barikani, Mehdi; Kaffashi, Babak

CORPORATE SOURCE: Department of Polyurethane and Special Substances, Iran Polymer Institute, Tehran, Iran

SOURCE: Iranian Polymer Journal (2001), 10(5), 331-335

CODEN: IPJOFF; ISSN: 1026-1265

PUBLISHER: Iran Polymer Institute

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A suitable reaction system, and proper conditions were designed to produce desirable polyurethane base thickener with a calculated number average mol. weight. Initially an ethoxylated urethane prepolymer was synthesized by reaction of a polyethylene glycol ( $M_n = 6000$ ) and dicyclohexylmethane diisocyanate using the step growth polymerization technique. Modification was carried out by reaction of cetyl alc. with the resulting prepolymer. The synthesis of ethoxylated urethane was studied by using FTIR. Also  $^1H$  NMR was used for showing substituted hydrophobe parts. It was found that, the measured number average mol. weight of synthesized hydrophobically modified ethoxylated urethane (HEUR) was in agreement with the calculated  $M_n$ . The thickening efficiency of the modified ethoxylated urethane was compared with a similar unmodified urethane. It was concluded that, the efficiency of modified ethoxylated urethane is high in comparison with the unmodified one, although the synthesis conditions were similar for both modified and unmodified urethanes.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:641626 HCAPLUS <<LOGINID::20070622>>

TITLE: Structural influences of comb-HEURs on aqueous solution viscosities

AUTHOR(S): Steffenhagen, Mark J.; Elliott, Peter T.; Glass, J. Edward

CORPORATE SOURCE: Department of Polymers and Coatings, North Dakota State University, Fargo, ND, 58105, USA

SOURCE: Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), PMSE-130. American Chemical Society: Washington, D. C.

CODEN: 69BUZP

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB Comb-HEURs are different from the telechelic HEURs that contain terminal hydrophobes. They require chain entanglements and possible inhibitions of intrachain hydrophobic assocns. to promote viscosity in aqueous solns. They do have an advantage in adsorbing on pigments in coating formulations over telechelic HEURs. The influence of mol. weight, diisocyanate hydrophobicity, catalysis, hydrophobe size and ethylene oxide spacer lengths on the solution properties of S-G Comb-HEUR thickeners are examined in this study. Solution behavior of comb-HEURs are followed by steady-state viscosity, oscillatory rheometry and fluorescence.

L16 ANSWER 3 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:585125 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 135:289388

TITLE: Structural influences of COMB-HEURs on

aqueous solution viscosities  
AUTHOR(S): Steffenhagen, Mark J.; Elliott, Peter T.; Glass, J. Edward  
CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
SOURCE: Polymeric Materials Science and Engineering (2001), 85, 215-216  
CODEN: PMSEDG; ISSN: 0743-0515  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB The influence of mol. weight, diisocyanate hydrophobicity, hydrophobe size and ethylene oxide spacer lengths on the solution properties of S-G Comb-HEUR (hydrophobically modified ethoxylated urethanes) thickeners are examined. The fluorescence data follow expected behavior, but there are surprising influences in the elastic response of the thickened fluids, contrasting with that observed in telechelic HEURs. Greater efficiency is observed with terminal hydrophobe placement on Comb polymers (Figure 5).

L16 ANSWER 4 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2001:390656 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 135:137982  
TITLE: Microstructure of Dilute Telechelic Associative Polymer in Sodium Dodecyl Sulfate Solutions  
AUTHOR(S): Dai, S.; Tam, K. C.; Jenkins, R. D.  
CORPORATE SOURCE: School of Mechanical and Production Engineering, Nanyang Technological University, 639798, Singapore  
SOURCE: Macromolecules (2001), 34(14), 4673-4675  
CODEN: MAMOBX; ISSN: 0024-9297  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Aggregation in the hexadecyl-terminated polyethylene oxide-isophorone diisocyanate copolymer (HEUR)- SDS solns. was studied using isothermal titration calorimetry and dynamic light scattering. Hydrodynamic radius of HEUR micelles ( $\approx 40.7$  nm) remains unchanged up to 2mM SDS concentration, beyond this it increases reaching an asymptote of  $\approx 220$  nm. At SDS concentration  $C_s \approx 0.3$  mM SDS micelles demicellize into monomers and bind to the hydrophobic core of HEUR micelles in an uncooperative manner, which give rise to slight increase in  $\Delta H$ . At  $C_s > 8$  mM, the solubilized PEO segments in the core of SDS mixed micelle rehydrate and reorganize into a necklace-like conformation where the PEO chains wrap around the SDS micelles.  
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2001:156168 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 134:340936  
TITLE: Shear-Induced Phase Separation in an Associating Polymer Solution  
AUTHOR(S): Le Meins, Jean-Francois; Tassin, Jean-Francois  
CORPORATE SOURCE: UMR CNRS Universite du Maine Polymeres Colloides et Interfaces, Le Mans, 72085, Fr.  
SOURCE: Macromolecules (2001), 34(8), 2641-2647  
CODEN: MAMOBX; ISSN: 0024-9297  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Rheol. and rheo-optical expts. were performed under shear flow on 1% solution of an hydrophobic ethoxylated polyurethane (HEUR) based on

PEG-isophorone diisocyanate (IPDI) with a mol. weight of 35 000 and a C18 hydrophobic end-cap. After Newtonian behavior at low shear rates, followed by a slight shear thickening, a pronounced drop in viscosity was observed above a given shear rate. Creep expts. confirm that above a critical stress a rather long time is required to reach a steady state with a rather low viscosity. Under steady-state conditions at 20°, birefringence first increased with shear rate until  $\dot{\gamma} \approx 5 \text{ s}^{-1}$ , then decreased until  $\dot{\gamma} \approx 50 \text{ s}^{-1}$  and increased upward again. The decrease in mol. orientation was accompanied by a decrease of the transmitted light intensity. On cessation of shear flow, the transmitted intensity increased back to its initial value. This behavior is interpreted in terms of a reversible shear-induced phase separation

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:121599 HCAPLUS <<LOGINID::20070622>>  
 DOCUMENT NUMBER: 135:167301  
 TITLE: Rheo-optical behaviour of associating polymers under shear flow  
 AUTHOR(S): Le Meins, Jean-Francois; Tassin, Jean-Francois  
 CORPORATE SOURCE: Polymeres, Colloides et Interfaces, UMR CNRS, Universite du Maine, Le Mans, 72085/09, Fr.  
 SOURCE: Proceedings of the International Congress on Rheology, 13th, Cambridge, United Kingdom, Aug. 20-25, 2000 (2000), Volume 1, 346-348. Editor(s): Binding, David M. British Society of Rheology: Glasgow, UK. CODEN: 69AYDA  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English

AB The rheo-optical behavior of HEUR's associative polymers has been studied on two different systems, which differ by their HLB balance. Both systems exhibit a slight shear thickening, related to an increase in birefringence and an alignment of the chain segments along the flow direction. For larger shear rates, the less hydrophobic polymer shows a shear thinning behavior attributed to a further alignment of the chain segments but a saturation of birefringence, the more hydrophobic one shows a dramatic shear thinning attributed to a flow induced phase separation The reversibility of this phenomenon is outlined.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 7 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:609895 HCAPLUS <<LOGINID::20070622>>  
 DOCUMENT NUMBER: 133:322487  
 TITLE: Behavior of branched-terminal, hydrophobe-modified, ethoxylated urethanes  
 AUTHOR(S): Elliott, Peter T.; Xing, Linlin; Wetzal, Wylie H.; Glass, J. Edward  
 CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
 SOURCE: ACS Symposium Series (2000), 765(Associative Polymers in Aqueous Media), 163-178 CODEN: ACSMC8; ISSN: 0097-6156  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Hydrophobically-modified, ethoxylated urethanes of narrow mol. weight (uni-HEURs) were prepared and the effect of hydrophobic group structure on solution properties was determined A linear hydrophobe (C12H25) and a branched hydrophobe (b-(C16H34)), of comparable hydrophobicity, were coupled to the ends of a 29,500 Mn polyoxyethylene (POE) via a real telechelic process

using 4,4'-methylenebis(cyclohexyl isocyanate), H12MDI. The aggregation number of these model uni-HEUR solns. increase with polymer concentration and plateau at high polymer concns. However, at higher concns. the solution viscosity of uni-HEUR thickeners with branched hydrophobes is higher than that of uni-HEUR with linear hydrophobes of the same effective carbon length, but lower than that of linear hydrophobes with an equivalent number of carbon units per linear chain. It is the number of hydrophobes in the aggregate and not the number of chain ends that is important in building solution viscosity. This is reflected by the longer relaxation time of the branched terminal hydrophobe uniHEUR in oscillatory rheol. studies. When H12MDI was used to couple larger hydrophobes to POE, the solution viscosity increased dramatically and soft gels were observed; therefore, the influence of branching was examined in greater detail using hexamethylene diisocyanate (HDI) to couple larger branched hydrophobes. Multiple branched hydrophobes in groups of six, varying in size from C10H21 to C16H33, were prepared. These hydrophobe groupings were used to prepare terminal position and comb architecture uniHEURs.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:18823 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 132:181185

TITLE: Lifetime and network relaxation time of a HEUR  
-C20 associative polymer system

AUTHOR(S): Ng, W. K.; Tam, K. C.; Jenkins, R. D.

CORPORATE SOURCE: School of Mechanical and Production Engineering,  
Nanyang Technological University, 639798, Singapore

SOURCE: Journal of Rheology (New York) (2000),  
44(1), 137-147

CODEN: JORHD2; ISSN: 0148-6055

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The end-capped telechelic HEUR associative polymer was reported to exhibit a single mode Maxwell typed relaxation behavior. It was suggested that the single mode Maxwell relaxation time corresponded to the lifetime of the hydrophobe in the micellar junction. However, results from some recent publications suggested that a more complex relaxation behavior existed. In order to verify this, a hydrophobically modified urethane-ethoxylate (HEUR) polymer with Mn of 26,000 and a C20H41 hydrophobe was synthesized for the present study. Results from oscillatory measurements of a 2 weight % sample in distilled water indicates that two different relaxation modes are present. This is confirmed with a two-mode Maxwell model and the determination of the relaxation time spectrum from the dynamic moduli data. Further anal. of the data at different temps. confirmed that one of the modes is possibly related to the lifetime (.apprx.0.01 s at 25 °C) of the hydrophobe in the micellar junction and the other to the network relaxation (.apprx.6 s at 25 °C). The lifetime is in the same order of magnitude as determined by NMR for other associative polymer systems. This is the first exptl. verification that the lifetime and network relaxation time can be differentiated in a model HEUR polymer system.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 9 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:558798 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 132:152500

TITLE: Comparative studies of HEUR and di-n-alkyl  
ether associative thickeners

AUTHOR(S): Mistry, Dharmista; Annable, Tom; Booth, Colin

CORPORATE SOURCE: Department of Chemistry, University of Manchester,

SOURCE: Manchester, M13 9PL, UK  
Polymer Preprints (American Chemical Society, Division  
of Polymer Chemistry) (1999), 40(2), 257-258  
CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer  
Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oscillatory and steady-shear expts. of the rheol. of aqueous solns. of  
polyethylene glycol bis(eicosyl ether) and a HEUR (ethylene  
oxide urethane block copolymers) synthesized by reaction of polyethylene  
glycol 35000 with isophorone diisocyanate (IPDI) followed by  
end-capping with 1-hexadecanol showed a simple Maxwellian response,  
consistent with a picture in which stress relaxation occurs through  
end-group disengagement followed by relaxation of the polymer chain. The  
similarity in high-frequency storage moduli are consistent with an IPDI  
residue equivalent to 4 CH<sub>2</sub> groups. However, the relaxation times differed,  
indicating that the mechanism by which stress relaxation occurs is  
different for the 2 polymers owing to their different structures. The  
effect of added styrene-acrylic latex on the reduced high-frequency  
storage modulus was significant in both systems, indicating that there was  
a latex-particle interaction; this, and the effect of added latex on the  
Newtonian viscosity is evidence of bridging between the latex particles by  
adsorbed chains.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 10 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:544028 HCAPLUS <<LOGINID::20070622>>

TITLE: Comparative studies of HEUR and di-n-alkyl  
ether associative thickeners.

AUTHOR(S): Mistry, Dharmista; Annable, Tom; Booth, Colin

CORPORATE SOURCE: Department of Chemistry, University of Manchester,  
Manchester, M13 9PL, UK

SOURCE: Book of Abstracts, 218th ACS National Meeting, New  
Orleans, Aug. 22-26 (1999), POLY-156.  
American Chemical Society: Washington, D. C.  
CODEN: 67ZJA5

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB The rheol. properties of aqueous solns. of a di-n-alkyl ether and a  
HEUR associative thickener (AT) have been compared under  
oscillatory and steady shear conditions as a function of concentration. The  
present HEUR was made using isophorone diisocyanate,  
the residue of which is equivalent to 4 CH groups. Therefore, end-cap lengths  
of C (di-ether) and C (HEUR) were used, based on polyethylene  
glycol 35000. The interaction of the two copolymers with styrene-acrylic  
latices of three different particle sizes was also investigated. In aqueous  
solution the di-n-alkyl ether behaved similarly to the HEUR: the  
moduli in each case fitted equally well to the Maxwell model but the  
relaxation times differed. The mixed polymer-latex systems showed a  
capacity to interact and reinforce the AT network, the effect on the  
HEUR network being the greater. The small particle size latex (A)  
was the most effective, particularly in enhancing the viscosity.

L16 ANSWER 11 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:47805 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 130:252914

TITLE: Surfactant and salinity influences on associative  
thickener aqueous solution rheology

AUTHOR(S): Kaczmariski, J. P.; Tarng, Ming-Ren; Ma, Zeying; Glass,  
J. E.

CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State

SOURCE: University, Fargo, ND, 58105, USA  
Colloids and Surfaces, A: Physicochemical and  
Engineering Aspects (1999), 147(1-2), 39-53  
CODEN: CPEAEH; ISSN: 0927-7757  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The rheol. behavior of a series of associative polymers were studied in aqueous solns. containing sodium dodecyl sulfate (SDS) and an octylphenol adduct containing an average of 10 oxyethylene units (C8H17C6H4O(EO)10H). Three associative polymer families were examined: Hydrophobically-modified, alkali-swellable emulsion (HASE); C12-16-alkyl hydrophobe-modified hydroxyethylcellulose (HMHEC); and hydrophobically-modified, ethoxylated urethanes (HEUR). The HASE thickeners are copolymers of methacrylic acid, Et acrylate, and the m-benzylidimethyl isocyanate (m-TMI) adduct of ethoxylated nonylphenol as associative monomer. At a critical concentration, the addition of SDS to HASE or HMHEC solns. increases the viscosity; however, the addition of the nonionic surfactant, C8H17C6H4O(EO)10H, has only a minimal influence in enhancing solution viscosity. In the presence of these two surfactants, a series of HEUR thickeners, synthesized by a step-growth (S-G) process, exhibited a significant deviation from HMHEC and HASE solns. As the effective terminal hydrophobe size of the S-G HEURs is increased, the nonionic surfactant solns. become more viscous than the anionic solns. These transitions are accompanied by other rheol. behaviors associated with increasing elastic character. Differences in rheol. behavior observed in SDS solns. with increasing sodium chloride concns. also are discussed.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 12 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:546614 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 129:231265  
TITLE: Branched HDI HEUR's. Model compound study  
and preliminary rheology data  
AUTHOR(S): Anderson, C. D.; Wetzell, Wylie H.; Glass, J. E.  
CORPORATE SOURCE: Dep. Polymers Coatings, North Dakota State Univ.,  
Fargo, ND, 58105, USA  
SOURCE: Polymeric Materials Science and Engineering (1998), 79, 411-412  
CODEN: PMSEDG; ISSN: 0743-0515  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The use of Hexane Diisocyanate (HDI) in place of methylene bis(4-cyclohexyl isocyanate) H12MDI was investigated to help elucidate single discrete isomer, which will enhance the removal of the urea byproduct and provide cleaner products. In addition, the contribution of HDI to be effective hydrophobe size will be significantly less. The affects of anionic surfactant concentration on the oscillatory and shear rate profiles were investigated at levels above, below, and equal to the viscosity maximum. Current results were compared to previous results obtained using H12MDI as the diisocyanate coupler. HDI HEURs (hydrophobic ethoxylated urethane) did not exhibit thixotropy, in contrast to the highly thixotropic H12MDI HEURs. In addition, HDI HEURs had shorter relaxation times and smaller storage modulus (G') indicating a less efficient network formation and faster diffusion rates than the H12MDI HEURs.

L16 ANSWER 13 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:527593 HCAPLUS <<LOGINID::20070622>>  
TITLE: Branched HDI HEUR's: Model compound study  
and preliminary rheology data.



AUTHOR(S): Anderson, C. D.; Wetzel, Wylie H.; Glass, J. E.  
CORPORATE SOURCE: Dept. Polymers and Coatings, North Dakota State  
University, Fargo, ND, 58105, USA  
SOURCE: Book of Abstracts, 216th ACS National Meeting, Boston,  
August 23-27 (1998), PMSE-194. American  
Chemical Society: Washington, D. C.  
CODEN: 66KYA2

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB The use of Hexane Diisocyanate (HDI) in place of methylene bis-(4-cyclohexyl isocyanate) H12MDI was investigated to help elucidate differences between large branched and linear hydrophobes. HDI is a single discrete isomer, which will enhance the removal of the urea byproduct and provide cleaner products. In addition, the contribution of HDI to the effective hydrophobe size will be significantly less. The effects of anionic surfactant concentration on the oscillatory and shear rate profiles were investigated at levels above, below, and equal to the viscosity maximum. Current results were compared to previous results obtained using H12MDI as the diisocyanate coupler. HDI HEURs did not exhibit thixotropy, in contrast to the highly thixotropic H12MDI HEURs. In addition, HDI HEURs had shorter relaxation times and smaller storage modulus ( $G'$ ) indicating a less efficient network formation and faster diffusion rates than the H12MDI HEURs.

L16 ANSWER 14 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:373203 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 129:54817

TITLE: A Structural Model of Hydrophobically Modified  
Urethane-Ethoxylate (HEUR) Associative  
Polymers in Shear Flows

AUTHOR(S): Tam, K. C.; Jenkins, R. D.; Winnik, M. A.; Bassett, D.  
R.

CORPORATE SOURCE: School of Mechanical and Production Engineering,  
Nanyang Technological University, Singapore, 639798,  
Singapore

SOURCE: Macromolecules (1998), 31(13), 4149-4159

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This paper describes the rheol. behavior of a HEUR (hydrophobic ethoxylated urethane) associative polymer with C16H33 end groups at 2.0 weight % concentration in aqueous solution. Under normal steady shear, this solution exhibits

Newtonian behavior at low shear rates and, as the shear rate is increased, passes through a shear-thickening region before exhibiting a sharp decrease in viscosity. Here we report superposition-of-oscillation expts. on steady-shear flows to examine the state of the network structure under different shear conditions. The technique involves applying a steady shear deformation to the fluid, and once the steady state is achieved, a small amplitude oscillation is imposed on the sample to measure the linear viscoelastic properties. We observe that within the shear-thickening region, the plateau modulus is larger than in the Newtonian region, suggesting that shear-thickening is the result of a shear-induced increase in the d. of mech. active chains, which may be due to incorporation of free micelles or higher aggregates into the network structure. In the shear-thinning region, the Maxwell relaxation time decreases with increasing shear stress or shear rate. Thus shear thinning is a consequence of a shear-enhanced exit rate of the hydrophobic end groups from the micellar junctions of the network. This is the first exptl. evidence for shear enhancement of the relaxation rate of an associative polymer network.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS

## RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 15 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:89784 HCAPLUS &lt;&lt;LOGINID::20070622&gt;&gt;

DOCUMENT NUMBER: 128:141140

TITLE: Synthesis and Linear Viscoelasticity of Fluorinated Hydrophobically Modified Ethoxylated Urethanes (F-Heur)

AUTHOR(S): Cathebras, Nathalie; Collet, Andre; Viguier, Michel; Berret, Jean-Francois

CORPORATE SOURCE: Laboratoire Organisation Moleculaire - Evolution et materiaux fluores UPRES A CNRS 5073, Universite de Montpellier II, Montpellier, F-34095, Fr.

SOURCE: Macromolecules (1998), 31(4), 1305-1311

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The influence of the terminal segment of hydrophobically modified ethoxylated urethane (HEUR) on the linear mech. behavior is examined through the synthesis of perfluoroalkyl telechelic HEUR (defined as F-HEUR). Such compds. are referred to as associative thickeners. A series of perfluoroalkyl-modified poly(oxyethylene) (POE) of mol. weight  $M_n = 6000$ ,  $10\ 000$ , and  $20\ 000$  with a well-defined structure has been synthesized by reacting POE with a large excess of isophorone diisocyanate (IDPI) to produce an isocyanato functional precursor, followed by the reaction of the terminal isocyanato group with a perfluoroalkyl alc. ( $C_8F_{17}(CH_2)_{11}OH$ ). The linear viscoelasticity of aqueous solns. has been investigated as a function of the polymer concentration (noted  $c_{pol}$ , in weight percent), temperature, and intermediate chain

length. For the  $M_n = 10\ 000$  chains as  $c_{pol}$  is raised from  $0.1\%$  to  $5\%$ , an increase of more than 6 decades is observed in the static viscosity around  $c_{pol} \approx 1.5\%$ . This increase coincides very precisely with the onset of viscoelasticity of the solns. Moreover, the linear mech. responses exhibit striking features: in all expts. performed, the stress relaxation function  $G(t)$  decreases as a stretched exponential of the form  $G(t) = G_0 \exp[-(t/\tau)^\alpha]$  with  $\alpha = 0.8 \pm 0.05$ . Here,  $G_0$  denotes the plateau modulus and  $\tau$  the macroscopic relaxation time of the transient network. Compared with already published data [T. Annable et al., J. Rheol. 1993, 37, 695-726],  $\tau$  is found to be nearly 3 decades larger than for fully hydrogenated end caps, and the associated activation energy is twice the one previously reported (53 kBT against  $\approx 25$  kBT). These data are actually remarkable since they provide the opportunity to probe the dynamics of the transient network in the time scale of minutes.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 16 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:311692 HCAPLUS &lt;&lt;LOGINID::20070622&gt;&gt;

DOCUMENT NUMBER: 126:344522

TITLE: Unifying model for understanding HEUR associative thickener influences on waterborne coatings. I. HEUR interactions with a small particle latex

AUTHOR(S): Chen, Mao; Wetzel, Wylie H.; Ma, Zeying; Glass, J. Edward; Buchacek, Robert J.; Dickinson, John G.

CORPORATE SOURCE: Polymers and Coatings Dept., Dunbar Hall, North Dakota State University, Fargo, ND, 58105, USA

SOURCE: Journal of Coatings Technology (1997), 69(867), 73-80

CODEN: JCTEDL; ISSN: 0361-8773

PUBLISHER: Federation of Societies for Coatings Technology

DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB The interactions of associative thickeners of the hydrophobically modified ethoxylate urethane (HEUR) type with the film forming latex are considered in this study. The competitive interaction of the surfactants and associative thickener types for the surface of both disperse phases is a key variable.

L16 ANSWER 17 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1996:416925 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 125:118050  
TITLE: Adsorption of nonionic surfactants and model HEUR associative thickeners on oligomeric acid-stabilized poly(methyl methacrylate) latexes  
AUTHOR(S): Ma, Zeying; Chen, Mao; Glass, J. Edward  
CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
SOURCE: Colloids and Surfaces, A: Physicochemical and Engineering Aspects (1996), 112(2/3), 163-184  
CODEN: CPEAEH; ISSN: 0927-7757  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The adsorption and competitive adsorption of nonionic oxynonylphenols (average oxyethylene units 12, 40 and 100), and model hydrophobically-modified ethoxylate urethane (HEUR) thickeners onto model poly(Me methacrylate-methacrylic acid) P(MMA-MAA) latexes were studied in terms of hydrophobicity of adsorbates (hydrophobe size and concentration), oxyethylene chain length, pH, and latex surface acid concentration. The adsorption isotherms of the nonionic surfactants on oligomeric acid-stabilized P(MMA-MAA) latexes can be described by the Langmuir equation. For nonionic surfactants, the pH value had a significant effect on adsorption behavior. At pH6, the amount of the surfactants adsorbed increases as the surface-acid concentration increases (e.g. 15-20% higher than that on acid monomer-free latex for NP-O(EtO)12H). At pH9.5, the adsorption of NP-O(EtO)12H decreases with increasing surface acid concentration. This reverse in trend, however, was not observed with the surfactants having higher oxyethylene content, and at both neutral and alkaline conditions, greater adsorption on acid-stabilized latexes than on acid-monomer-free latexes was observed with all HEUR thickeners studied. This was supported by electrokinetic measurements. The competitive adsorption between the nonionic surfactant C9H19-C6H4-O(EtO)12H and model HEUR associative thickeners onto model P(MMA-MAA) latexes was investigated in relation to the structure of the HEURs. Structural variables include terminal-hydrophobe size and the architecture of the internal connecting unit. The amount of surfactant adsorbed is unaffected by the presence of poly(oxyethylene), but is significantly reduced as the effective size of the terminal hydrophobe of the thickener and the concentration of the HEUR hydrophobe are increased.

L16 ANSWER 18 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1996:416918 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 125:115839  
TITLE: The functionality of associative polymer networks: the association behavior of hydrophobically modified urethane-ethoxylate (HEUR) associative polymers in aqueous solution  
AUTHOR(S): Xu, Bai; Yekta, Ahmad; Li, Lin; Masoumi, Zahra; Winnik, Mitchell A.  
CORPORATE SOURCE: Department of Chemistry and Erindale College, University of Toronto, Toronto, ON, M5S 1A1, Can.  
SOURCE: Colloids and Surfaces, A: Physicochemical and

Engineering Aspects (1996), 112(2/3),  
239-250

CODEN: CPEAEH; ISSN: 0927-7757

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The rheol. of aqueous solns. of a hydrophobically modified urethane ethoxylate associative polymer with  $M_n = 51,000$  and containing  $C_{16}H_{33}$  end groups was studied. Fluorescence data indicate that association commences at a low concentration (about 10 ppm). Over a wide range of concns., the system forms spherical flower-like micelles consisting of about 10 looped chains. The chain-end aggregation number was  $22 \pm 2$  end groups per micelle, independent of polymer concentration. Rheol. data indicate that larger structures are formed through secondary aggregation of the polymer micelles when the polymer concentration is more than 0.2%. Treating the micelles as the fundamental building blocks of the secondary association, the effective functionality of the network and the fraction of chains that bridge neighboring micelles were calculated from the plateau modulus (at polymer concentration of more than 1.2%). Both of these parameters increase as the polymer concentration increases.

L16 ANSWER 19 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:318471 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 124:344617

TITLE: Influence of Molecular Weight Distributions on  
Heur Aqueous Solution Rheology

AUTHOR(S): May, Rebecca; Kaczmariski, J. Philip; Glass, J. Edward

CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State  
University, Fargo, ND, 58105, USA

SOURCE: Macromolecules (1996), 29(13), 4745-4753

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two series of hydrophobe-modified, ethoxylated urethane (HEUR) polymers were synthesized. The first series was prepared by the step-growth (S-G) polymerization of poly(oxyethylene) (POE) of  $M_n = 6000$ , with a slight excess of different aliphatic diisocyanates in a 4.2 to 3.2 mol ratio to produce a S-G polymer with number-average mol. weight ( $M_n$ ) .apprx.20,000. The terminal isocyanate groups were reacted with alkylamines of different hydrocarbon chain lengths. The second series was produced by reacting POE of  $M_n = 20,000$  with a large excess of the diisocyanate to produce POE with terminal isocyanate functionality, followed by reaction with alkylamines. The mol.-weight distribution of the second series was narrow compared to the first series, prepared by S-G polymerization. The hydrocarbon chain length of the alkylamine, the coupling diisocyanate, and the mol. weight distributions were systematically varied by the proper choice of synthetic conditions. The changes in structures were correlated with the rheol. behavior of aqueous HEUR solns. Their aqueous solution behaviors also were evaluated in the presence of anionic and nonionic surfactants. HEUR thickeners prepared with bis(4-isocyanatocyclohexyl)methane (H12MDI) were more effective in building viscosity than HEURs prepared from hexamethylene diisocyanate. In general, HEURs, with a narrow mol. weight distribution, gave higher aqueous solution viscosities than their corresponding broad mol. weight distribution counterparts at equal concns. Approx. twice the concentration of the broad mol. weight distribution HEUR with terminal  $C_{12}H_{25}$ -H12MDI hydrophobes was required to achieve viscosity comparable with the narrow mol. weight distribution HEUR. Despite the differences in concentration, the storage and loss moduli responses were similar. Solns. with small terminal alkyl groups were predominantly viscous in their viscoelastic response. The size of the effective terminal alkyl groups dominated aqueous solution rheol. responses of both narrow and broad mol.

weight distribution HEURs.

L16 ANSWER 20 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1996:301342 HCAPLUS <<LOGINID::20070622>>  
 DOCUMENT NUMBER: 124:320144  
 TITLE: Surfactant Interactions with HEUR  
 Associating Polymers  
 AUTHOR(S): Zhang, Kewei; Xu, Bai; Winnik, Mitchell A.; Macdonald,  
 Peter M.  
 CORPORATE SOURCE: Department of Chemistry, University of Toronto,  
 Toronto, ON, M5S 1A2, Can.  
 SOURCE: Journal of Physical Chemistry (1996),  
 100(23), 9834-9841  
 CODEN: JPCHAX; ISSN: 0022-3654  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The interactions between a HEUR (hydrophobically-modified  
 ethoxylated urethane) AP (associating polymer) and the anionic surfactant SDS  
 or the cationic surfactant DTAB (dodecyltrimethylammonium bromide) were  
 studied using a combination of rheol. measurements plus PGSE  
 (pulsed-gradient spin-echo) NMR self-diffusion and NMR relaxation time  
 measurements. For comparison, parallel expts. were performed using  
 poly(ethylene oxide) (PEO) plus surfactant mixts. At low concns. (4 SDS  
 per HEUR-AP hydrophobe) added surfactant enhanced HEUR  
 -AP network formation. At high concns. (33 SDS per HEUR-AP  
 hydrophobe) added surfactant totally disrupted the HEUR-AP  
 network and the HEUR-AP self-diffusion came to resemble that of  
 PEO. Both SDS and DTAB bound with greater affinity to the HEUR  
 -AP than to PEO. SDS bound with greater affinity than DTAB to either the  
 HEUR-AP or PEO. Despite the association of SDS with the ethylene  
 oxide backbone of the HEUR-AP, the results support the  
 hydrophobe-replacement model as a description of the effects of surfactant  
 on network formation in solns. of HEUR-APs.

L16 ANSWER 21 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1996:10211 HCAPLUS <<LOGINID::20070622>>  
 DOCUMENT NUMBER: 124:88755  
 TITLE: Comparative flow properties of model associative  
 thickener aqueous solutions  
 AUTHOR(S): Tarng, Ming-Ren; Kaczmariski, J. Philip; Lundberg,  
 David J.; Glass, J. Edward  
 CORPORATE SOURCE: Dep. Polymers Coatings, North Dakota State Univ.,  
 Fargo, ND, 58105, USA  
 SOURCE: Advances in Chemistry Series (1996),  
 248(Hydrophilic Polymers), 305-41  
 CODEN: ADCSAJ; ISSN: 0065-2393  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The flow behavior of model hydrophobe-modified, water-soluble polymers of the  
 type used in coating formulations [hydrophobe-modified, ethoxylated  
 urethane (HEUR), hydrophobe-modified hydroxyethyl cellulose  
 (HMHEC), and hydrophobe-modified alkali-swellaable (HASE) polymers] alone  
 and in the presence of surfactants is examined. The synthesis,  
 characterization, and solution rheol. of well-characterized HEUR  
 water-soluble polymers are described for three types of model HEURs  
 . The first type consists of linear polyoxyethylenes with terminal  
 hydrophobes of different sizes and with variable oxyethylene spacer  
 lengths between termini. The second type is synthesized by a one-step  
 addition of an ethoxylated nonylphenol surfactant to a diisocyanate  
 or an isocyanato functional biuret or isocyanurate. The third type of  
 HEUR synthesized is by the traditional step-growth process, which

is characterized by broad mol. weight distributions. This compositionally defined step-growth HEUR and HMHEC and a chain-growth HASE thickener are also examined Their flow profiles and oscillatory responses alone and in the presence of anionic and nonionic surfactants are studied.

L16 ANSWER 22 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1996:1094 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 124:178939  
TITLE: Block HEUR associative thickeners in coatings  
AUTHOR(S): Wetzel, Wylie; Glass, J. Edward  
CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
SOURCE: Polymeric Materials Science and Engineering ( 1995), 73, 329-30  
CODEN: PMSEDG; ISSN: 0743-0515  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Water-sol. PEO-PPO-PEO triblock and poly(tetrahydrofuran) (PTHF) were hydrophobically-modified to examine their rheol. properties. The PEO-PPO-PEO segments were EO 138PO 52EO138 (Mn=15,200) and EO 95PO 36EO95 (Mn=10,500) and the PEO content was approx. 80% of the total mol. weight Octadecyl isocyanate was used to modify the PEO hydroxyl groups and the viscosity of products was measured the presence of sodium dodecyl sulfate (SDS). The PTHFs of various mol. weight were capped with a nonylphenol-EO100 surfactant (NP-(EO)100), Mn=4400 and isophorone diisocyanate was used as the coupler. This enabled the PEO content to remain constant as the size of the internal hydrophobe increased. Both types of HEUR [hydrophobically-modified ethoxylated urethane] thickeners exhibited phase separation in the presence of a nonionic surfactant (Triton X-100), while the C18-EO 138/PO 52/EO 138-C18 thickener first showed a decrease in viscosity before exhibiting an increase with SDS concentration The PTHF thickeners exhibited a change in viscosity with increasing PTHF size.

L16 ANSWER 23 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1995:925931 HCAPLUS <<LOGINID::20070622>>  
TITLE: Block HEUR associative thickeners in coatings  
AUTHOR(S): Wetzel, Wylie; Glass, J. Edward  
CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
SOURCE: Book of Abstracts, 210th ACS National Meeting, Chicago, IL, August 20-24 (1995), Issue Pt. 2, PMSE-175. American Chemical Society: Washington, D. C.  
CODEN: 61XGAC  
DOCUMENT TYPE: Conference; Meeting Abstract  
LANGUAGE: English  
AB Two different types of water-soluble, block polymers were hydrophobically-modified to examine their rheol. properties. The first polymers were com. available PEO-PPO-PEO triblock polymers with corresponding segments: EO138PO52EO138 (Mn=15,200) and EO95PO36EO95 (Mn=10,500). The PEO content was kept at approx. 80% of the total mol. weight for both of the PEO-PPO-PEO triblock polymers. An octadecyl isocyanate was used to modify the PEO hydroxyl groups and their viscosity profiles, in the presence of sodium dodecyl sulfate (SDS), were examined The second polymer type was a PolyTetraHydroFuran polyol (PTHF) of increasing mol. weight, capped with a nonylphenol-EO100 surfactant (NP-EO100), Mn=4400. Isophorone diisocyanate was used as the coupling unit. This enabled the PEO content to remain constant as the size of the internal hydrophobe increased. Both types of thickeners exhibited phase separation in the presence of a nonionic surfactant (Triton X-100), while

the C18-EO138/PO52/EO138-C18 thickener first showed a decrease in viscosity before exhibiting an increase with SDS concentration. The PTHF thickeners exhibited a change in viscosity with increasing PTHF size.

L16 ANSWER 24 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:337480 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 122:82543  
TITLE: Fluorescence Studies of Associating Polymers in Water: Determination of the Chain end Aggregation Number and a Model for the Association Process  
AUTHOR(S): Yekta, Ahmad; Xu, Bai; Duhamel, Jean; Adiwidjaja, Hendra; Winnik, Mitchell A.  
CORPORATE SOURCE: Department of Chemistry, University of Toronto, Toronto, ON, M5S 1A1, Can.  
SOURCE: Macromolecules (1995), 28(4), 956-66  
CODEN: MAMOBX; ISSN: 0024-9297  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Fluorescence probe expts. were carried out on aqueous solns. of urethane-coupled poly(ethylene oxide) polymers containing C16H33O end groups. These hydrophobically modified ethylene oxide-urethane block copolymers (HEUR) associate in water, giving rise to a sharp increase in zero-shear viscosity with increasing concentration above 0.2-0.5 wt % polymer and pronounced shear thinning at modest shear rates. At very low concns. (a few ppm), the hydrophobic end groups of these polymers come together to form micelle-like structures. The authors were interested in the mechanism of the polymer association and in determining the number of hydrophobic groups NR that come together to form the micellar core. Fluorescence decay studies of pyrene excimer formation give values of NR close to 20, independent of polymer concentration. This NR value is a factor of 3 smaller than that found for typical nonionic micelles but larger than that inferred indirectly from different measurements on similar HEUR polymer systems. Steady-state fluorescence studies of intramol. excimer formation in bis(1-pyrenyl)methyl ether (Dipyme) solubilized in these polymers indicate that the micellar core is much more rigid than that of traditional surfactant micelles, with an estimated "microviscosity" an order of magnitude larger than that of sodium dodecyl sulfate micelles. A model is developed to accommodate these observations. In this model, the polymers form rosette-like micelles comprised of looped chains. At higher concns., larger structures are formed from aggregation of these micelles, held together by chains which bridge the micelles. The influence of dilution and of shear is to induce a bridge-to-loop transition, leading to a breakup of larger structures to smaller objects, micelles and smaller micelle aggregates.

L16 ANSWER 25 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:703089 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 121:303089  
TITLE: Hydrophobically modified urethane-ethoxylate (HEUR) associative thickeners 2. Interaction with latex  
AUTHOR(S): Hulden, M.  
CORPORATE SOURCE: Institute for Surface Chemistry, Stockholm, S-11486, Swed.  
SOURCE: Colloids and Surfaces, A: Physicochemical and Engineering Aspects (1994), 88(2-3), 207-21  
CODEN: CPEAEH; ISSN: 0927-7757  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The rheol. behavior of model latexes thickened with hydrophobically modified ethylene oxide-urethane block copolymers, i.e. HEUR type associative thickeners, is described. The latex particle size, as

well as the type and level of surfactant used, greatly affect the thickening efficiency of the HEUR. Measurements of the electrophoretic mobility of the latex particles at different HEUR concns. indicate adsorption of the thickener in the absence of surfactant and in the presence of nonylphenol ethoxylate, NPE10. However, the HEUR thickeners do not adsorb to the latex particles in the presence of sodium dodecyl sulfate (SDS) at levels above the CMC of the surfactant. This can be explained by SDS-HEUR interactions in the solution. Both adsorption and rheol. measurements support a latex-HEUR association mechanism, according to which the particles are incorporated through adsorption of their hydrophobic end-groups into a three-dimensional transient thickener network. At a given volume fraction, latexes with a small particle size present a larger number of potential crosslink points at shorter distances from each other. This leads to a synergistic increase in viscosity on addition of HEUR to the latex. A HEUR-thickened latex that exhibits such a synergistic viscosity increase is more shear thinning and elastic than an aqueous HEUR solution of comparable low-shear-rate viscosity. This may be explained by the assumption that the latex particles introduce stronger crosslink points in the network in addition to the micelle-like hydrophobic aggregates which act as crosslink points in aqueous solns. of HEUR. Variations in the chemical of the HEUR affect both the level of the low-shear-rate viscosity and the shear thinning behavior of the thickened latex. Octadecyl-terminated HEURs produce latex systems that are more shear thinning and elastic than HEURs with shorter hydrophobic modifications (i.e. with pentadecyl or 9-heptadecenyl terminations). However, the latter are less efficient in increasing the viscosity at low and medium shear rates. The effect of the mol. weight of the HEUR is mainly to increase the length of the network junctions between the crosslink points. As a result the greatest thickener efficiency is obtained with medium mol. wts. The effects on the rheol. of thickened latex obtained by varying the HEUR composition parallel the effects seen in aqueous solution. This does not mean that the solution properties dominate in the rheol. behavior, but rather than both types of crosslinks present in the HEUR-latex network are affected in similar ways by variations in the HEUR chemical. This is reasonable, as both crosslinks are a product of hydrophobic interactions.

L16 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1994:559226 HCAPLUS <<LOGINID::20070622>>  
 DOCUMENT NUMBER: 121:159226  
 TITLE: Synthesis, characterization, and solution rheology of model hydrophobically-modified, water-soluble ethoxylated urethanes  
 AUTHOR(S): Lundberg, David J.; Brown, Richard G.; Glass, J. Edward; Eley, Richard R.  
 CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA  
 SOURCE: Langmuir (1994), 10(9), 3027-34  
 CODEN: LANGD5; ISSN: 0743-7463  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The synthesis, characterization, and solution rheol. of well-characterized hydrophobically-modified, ethoxylated urethane (HEUR) water-soluble polymers are described for two types of model HEURs: linear poly(oxyethylene) of Mn = 26 186 with terminal hydrophobes of different sizes, and terminal hydrophobe groups separated by smaller oxyethylene spacing around a larger internal hydrophobe. In the first series, a terminal isocyanate telechelic prepolymer of poly(oxyethylene) is prepared and reacted with amine and alc. containing hydrophobes of variable size. In the second, terminal hydrophobe HEURs varying in geometry around an internal hydrophobe are synthesized by a one-step addition of an ethoxylated nonylphenol surfactant to a diisocyanate or an isocyanato



functional biuret or isocyanurate. Low shear rate viscosities and oscillatory responses of HEUR solns. are examined, alone and in the presence of anionic and nonionic surfactants. HEUR solns. exhibit a maximum in viscosity with increasing surfactant concns. with both anionic and nonionic surfactants. The viscoelasticity of the solution in the area of the viscosity maximum and factors influencing the magnitude of the viscosity increase are addressed. The surfactant concentration necessary to achieve the viscosity maximum is observed to depend on the concentration and architecture of the HEUR as well as the structure of the surfactant. Differences in the phase separation behavior of aqueous solns. also are observed

L16 ANSWER 27 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:558706 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 121:158706  
TITLE: Synthesis and Characterization of Step Growth  
Hydrophobically-Modified Ethoxylated Urethane  
Associative Thickeners  
AUTHOR(S): Kaczmariski, J. Philip; Glass, J. Edward  
CORPORATE SOURCE: Department of Polymers and Coatings, North Dakota  
State University, Fargo, ND, 58105, USA  
SOURCE: Langmuir (1994), 10(9), 3035-42  
CODEN: LANGD5; ISSN: 0743-7463  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The influences of mol. weight, the presence of internal alkyl groups, and the size of the external alkyl group among hydrophobically-modified, ethoxylated urethanes (HEURs) are examined through the synthesis of compositionally defined thickeners. The polymers were prepared by a step-growth polymerization of poly(oxyethylenes) with diisocyanates and possess broad mol. weight distributions. HEURs synthesized with only internal alkyl groups do not effect viscosity increases despite variances in the structure of the alkyl group sizes of the diisocyanates, and evidence of hydrophobic aggregation is not observed by fluorescence spectroscopy. The size of the terminal alkyl groups is important. Dramatic increases in hydrophobic assocns. and viscosity as a function of thickener concentration are observed with increasing "effective" terminal hydrophobe size. The "effective" hydrophobe size can be altered by increasing the hydrophobicity of the alkyl amine or the alkyl diisocyanate used to couple the amine to the poly(oxyethylene) units. For example, with a constant amine hydrophobe size a larger diisocyanate, dicyclohexylmethane diisocyanate, increases the effective hydrophobe size of the terminal alkyl group to a greater extent than the smaller hexamethylene diisocyanate. Contrary to viscosity build through chain entanglements, lowering the mol. weight of HEUR thickeners effects larger viscosity increases. This also is related to hydrophobic aggregation through the increase in concentration of hydrophobes.25322-68-3/CRN.

L16 ANSWER 28 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:10412 HCAPLUS <<LOGINID::20070622>>  
DOCUMENT NUMBER: 120:10412  
TITLE: Interactions of HEUR [hydrophobe-modified  
ethoxylated urethanes] associative thickeners with  
waterborne polyurethanes  
AUTHOR(S): Kaczmariski, J. Philip; Fernando, Raymond H.; Glass, J.  
Edward  
CORPORATE SOURCE: Polym. Coat. Dep., North Dakota State Univ., Fargo,  
ND, 58105, USA  
SOURCE: Journal of Coatings Technology (1993),  
65(818), 39-46  
CODEN: JCTEDL; ISSN: 0361-8773  
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyurethane aqueous dispersions are examined with a variety of water-soluble polymers, and compared with waterborne acrylic latexes. Two particle size polyurethane aqueous dispersions are studied, the smaller size gives higher viscosities, in parallel with acrylic latexes. Hydroxyethyl cellulose and hydrophobically-modified hydroxyethyl cellulose thicken surface-acid-stabilized acrylic latexes. In contrast, polyurethane aqueous dispersions are not thickened effectively with cellulose ethers. These cause phase separation of the polyurethane dispersions, which increases with increasing particle size, in agreement with the concept of depletion or volume restricted flocculation. Polyurethane aqueous dispersions are more effectively thickened with HEUR. In a series of designed step-growth polymerization HEUR, the viscosity increase depends on the effective hydrophobe size of the terminal positions in the thickeners. The effective terminal hydrophobe size is determined by the alkyl chain of the hydrophobic amine and the alkyl group of the diisocyanate with which it reacts. When the size of the hydrophobic amine is kept constant, but the alkyl units of the diisocyanate is increased in hydrophobicity, larger increases in viscosity are realized.

L16 ANSWER 29 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:540318 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 119:140318

TITLE: Synthesis and solution properties of hydrophobically modified ethoxylated urethanes with variable oxyethylene spacer lengths

AUTHOR(S): Kaczmariski, J. Philip; Glass, J. Edward

CORPORATE SOURCE: Polym. Coat. Dep., North Dakota State Univ., Fargo, ND, 58105, USA

SOURCE: Macromolecules (1993), 26(19), 5149-56

CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The influence of the oxyethylene spacer length between terminal hydrophobes of hydrophobically-modified ethoxylated polyurethanes (HEURs) is examined through the synthesis of two series of well-defined terminally-modified HEUR thickeners. In the first series, octadecyl isocyanate is reacted with poly(oxyethylene) (I) of varying mol. weight. In the second synthesis, excess isophorone diisocyanate is reacted with I to prepare an isocyanate functional precursor, followed by reaction of the terminal isocyanate group with nonylphenol. Viscous aqueous solns. are obtained with only partial terminal modification of I; with full terminal modification swollen gels are realized. At moderate concns. the phase separation of HEUR thickeners is dependent on the size of the hydrophobe and the number of oxyethylene units between the hydrophobes. In both series of HEURs, the critical aggregation concentration is lowest when 500 oxyethylene units sep. the terminal hydrophobes. In the presence of surfactant, both anionic and nonionic, the fully-modified HEURs also exhibit a maximum in viscosity when the spacer is .apprx.500 oxyethylene units.

L16 ANSWER 30 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:39897 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 118:39897

TITLE: Structure property relationships in HEUR associative thickeners: influence of the diisocyanate coupler on aqueous solution rheology

AUTHOR(S): Kaczmariski, J. Philip; Glass, J. Edward

CORPORATE SOURCE: Polym. Coat. Dep., North Dakota State Univ., Fargo, ND, 58105, USA

SOURCE: Polymeric Materials Science and Engineering (1992), 67, 282-3

CODEN: PMSDGG; ISSN: 0743-0515

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB A nonlinear relation exists for hydrophobe-modified ethoxylated urethane (HEUR) thickeners regarding total effective terminal hydrophobe size on the hydrophobic domain size and the viscosity build with concentration

L16 ANSWER 31 OF 31 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:150950 HCAPLUS &lt;&lt;LOGINID::20070622&gt;&gt;

DOCUMENT NUMBER: 102:150950

TITLE: The influence of associative thickeners on coatings performance. Part II: heterodispersed, hydroxyethylcellulose-stabilized vinyl-acrylic latex studies

AUTHOR(S): Fernando, R. H.; Glass, J. E.

CORPORATE SOURCE: Polym. Coat. Dep., North Dakota State Univ., Fargo, ND, 58105, USA

SOURCE: Journal of the Oil and Colour Chemists' Association (1984), 67(11), 279-83

CODEN: JOCCAB; ISSN: 0030-1337

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB The rheol. profile, sag, gloss, and yield stress are examined of water-thinned coatings based on acrylic-vinyl polymer latex Ucar 360 [56591-11-8] (average particle size 500 nm). The formulations were thickened with hydrophobe-modified ethoxylated urethane polymers (HEUR) and maleic acid-styrene terpolymer (I) (associative thickeners) and hydroxyethyl cellulose [9004-62-0] to Stormer viscosity levels 80, 90, 105, and 120 Krebs units in 35 and 57% pigment volume concns. One of the HEUR thickeners was insensitive to formulation changes. I was very sensitive and ineffective in the vinyl-acrylic latex formulation.

=&gt; fi lstng

FI IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=&gt;).

=&gt; fil stng

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SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

95.53

150.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

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=&gt; fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.30

151.17

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-26.52

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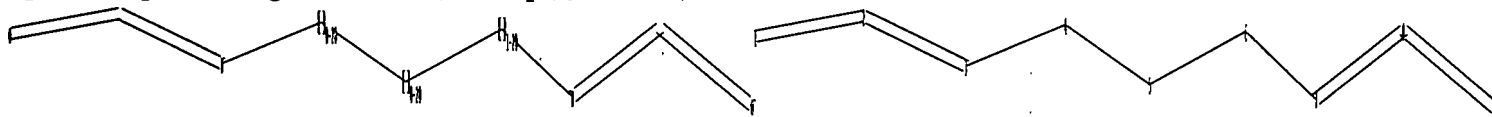
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=>  
Uploading C:\Program Files\Stnexp\Queries\436.str



chain nodes :  
1 2 3 4 5 6 7 8 9  
chain bonds :  
1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9  
exact/norm bonds :  
1-2 2-3 3-4 6-7 7-8 8-9  
exact bonds :  
4-5 5-6

Match level :  
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS

L17 STRUCTURE UPLOADED

=> d his

(FILE 'HOME' ENTERED AT 00:39:28 ON 22 JUN 2007)

FILE 'HCAPLUS' ENTERED AT 00:39:38 ON 22 JUN 2007  
E US20040072800/PN 25

L1 1 S E3

FILE 'STNGUIDE' ENTERED AT 00:40:26 ON 22 JUN 2007

FILE 'REGISTRY' ENTERED AT 00:41:38 ON 22 JUN 2007  
 L2 1 S (7585-39-9DP OR 9059-74-9DP OR 10016-20-3DP OR 10016-20-3DP O

FILE 'HCAPLUS' ENTERED AT 00:41:51 ON 22 JUN 2007  
 L3 7003 S (7585-39-9DP OR 9059-74-9DP OR 10016-20-3DP OR 10016-20-3DP O  
 L4 1 S L3 AND L1

FILE 'STNGUIDE' ENTERED AT 00:42:31 ON 22 JUN 2007

FILE 'HCAPLUS' ENTERED AT 00:44:40 ON 22 JUN 2007  
 L5 0 S (HEXAMETHYLENE DIISOCYANATE)/RN

FILE 'REGISTRY' ENTERED AT 00:44:56 ON 22 JUN 2007

FILE 'HCAPLUS' ENTERED AT 00:45:01 ON 22 JUN 2007  
 S (HEXAMETHYLENE DIISOCYANATE)/CN

FILE 'REGISTRY' ENTERED AT 00:45:06 ON 22 JUN 2007  
 L6 1 S (HEXAMETHYLENE DIISOCYANATE)/CN

FILE 'HCAPLUS' ENTERED AT 00:45:06 ON 22 JUN 2007  
 L7 7572 S L6

FILE 'HCAPLUS' ENTERED AT 00:45:12 ON 22 JUN 2007  
 L8 185 S HEUR  
 L9 3 S L7 AND L8

FILE 'STNGUIDE' ENTERED AT 00:45:39 ON 22 JUN 2007

FILE 'STNGUIDE' ENTERED AT 00:58:29 ON 22 JUN 2007

FILE 'HCAPLUS' ENTERED AT 00:58:55 ON 22 JUN 2007  
 S (1,10-DECAMETHYLENE DIISOCYANATE)/CN

FILE 'REGISTRY' ENTERED AT 00:59:02 ON 22 JUN 2007  
 L10 1 S (1,10-DECAMETHYLENE DIISOCYANATE)/CN

FILE 'HCAPLUS' ENTERED AT 00:59:02 ON 22 JUN 2007  
 L11 43 S L10

FILE 'HCAPLUS' ENTERED AT 00:59:10 ON 22 JUN 2007  
 L12 43 S L11  
 L13 0 S L12 AND L8  
 L14 55105 S ?DIISOCYANATE?  
 L15 43 S L14 AND L8  
 L16 31 S L15 AND 1800<=PY<=2002

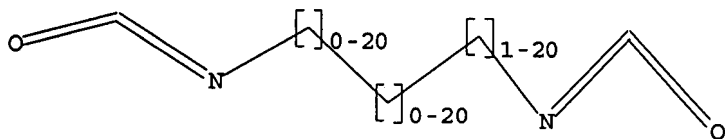
FILE 'STNGUIDE' ENTERED AT 01:01:14 ON 22 JUN 2007

FILE 'REGISTRY' ENTERED AT 01:04:02 ON 22 JUN 2007  
 L17 STRUCTURE UPLOADED

=> d l17

L17 HAS NO ANSWERS

L17 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 117 sss sam

STRUCTURE TOO LARGE - SEARCH ENDED

A structure in your query is too large. You may delete attributes or atoms to reduce the size of the structure and try again.

=> fil stng

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.45	151.62
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-26.52

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=> FIL REG

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.18	151.80
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-26.52

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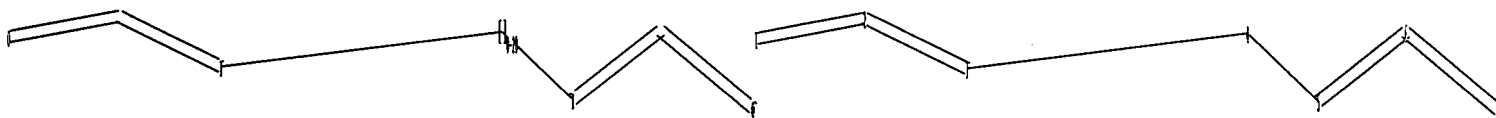
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<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\436II.str



chain nodes :

1 2 3 4 5 6 7

chain bonds :

1-2 2-3 3-4 4-5 5-6 6-7

exact/norm bonds :

1-2 2-3 3-4 4-5 5-6 6-7

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS

L18 STRUCTURE UPLOADED

=> d l18

L18 HAS NO ANSWERS

L18 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l18 sss sam

SAMPLE SEARCH INITIATED 01:06:20 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 101091 TO ITERATE

2.0% PROCESSED 2000 ITERATIONS

50 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*INCOMPLETE\*\*

BATCH \*\*INCOMPLETE\*\*

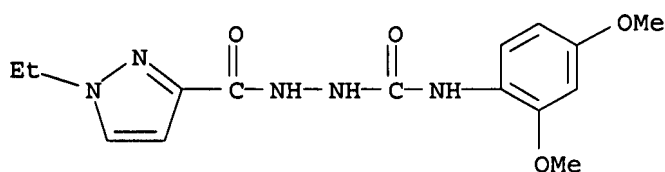
PROJECTED ITERATIONS: 2002956 TO 2040684

PROJECTED ANSWERS: 217078 TO 229744

L19 50 SEA SSS SAM L18

=> d scan

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
IN 1H-Pyrazole-3-carboxylic acid, 1-ethyl-, 2-[[ (2,4-  
dimethoxyphenyl)amino]carbonyl]hydrazide  
MF C15 H19 N5 O4



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):`0

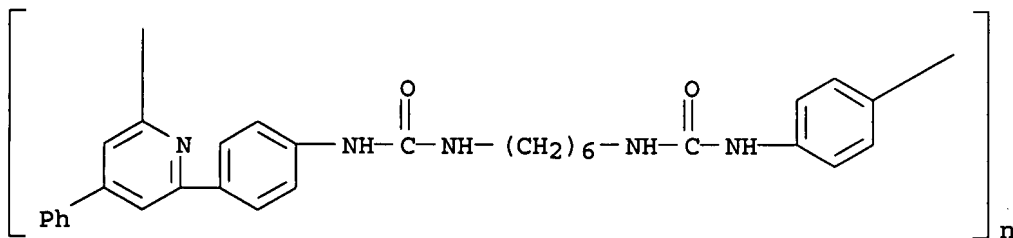
`0' IS NOT VALID HERE

To display more answers, enter the number of answers you would like to see. To end the display, enter "NONE", "N", "0", or "END".

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

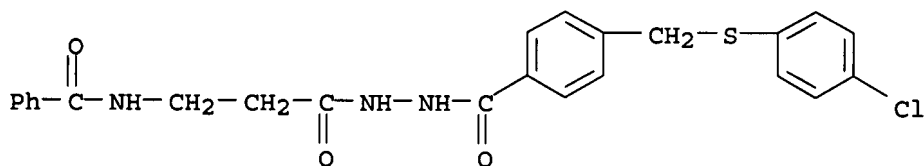
L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN Poly[(4-phenyl-2,6-pyridinediyl)-1,4-phenyleneiminocarbonylimino-1,6-hexanediyliminocarbonylimino-1,4-phenylene] (9CI)  
 MF (C31 H31 N5 O2)n  
 CI PMS

\*\*RELATED POLYMERS AVAILABLE WITH POLYLINK\*\*



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

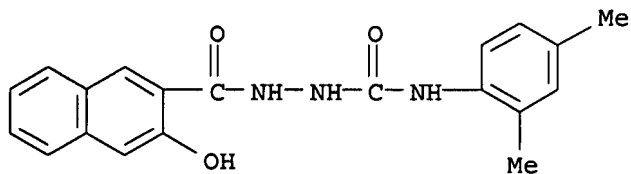
L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN Benzoic acid, 4-[[[(4-chlorophenyl)thio]methyl]-, 2-[3-(benzoylamino)-1-oxopropyl]hydrazide  
 MF C24 H22 Cl N3 O3 S



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

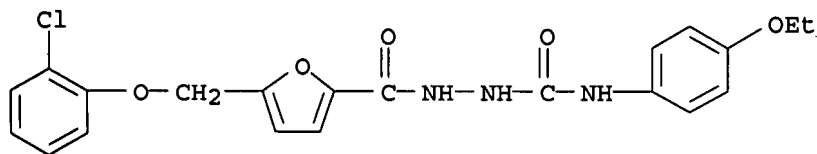


L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN 2-Naphthalenecarboxylic acid, 3-hydroxy-, 2-[[[(2,4-dimethylphenyl)amino]carbonyl]hydrazide  
 MF C20 H19 N3 O3



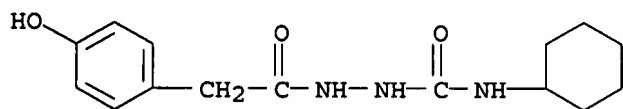
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN 2-Furancarboxylic acid, 5-[(2-chlorophenoxy)methyl]-, 2-[[[(4-ethoxyphenyl)amino]carbonyl]hydrazide  
 MF C21 H20 Cl N3 O5



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

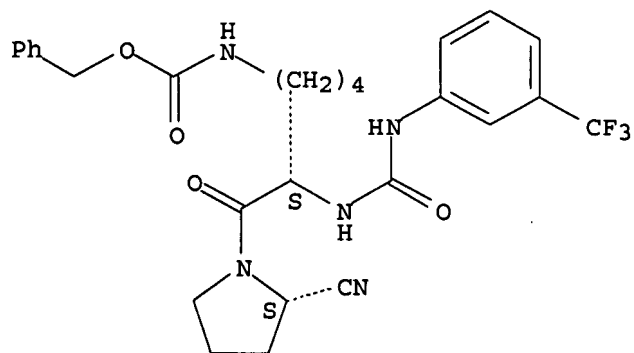
L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN Benzeneacetic acid, 4-hydroxy-, 2-[(cyclohexylamino)carbonyl]hydrazide  
 MF C15 H21 N3 O3



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

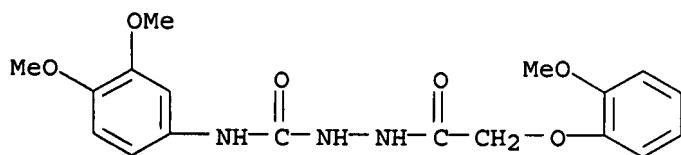
L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN INDEX NAME NOT YET ASSIGNED  
 MF C27 H30 F3 N5 O4

Absolute stereochemistry.



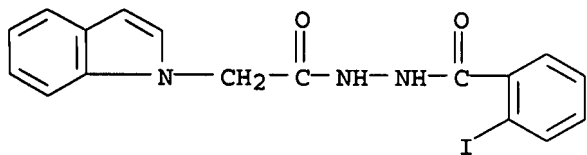
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN Acetic acid, 2-(2-methoxyphenoxy)-, 2-[[[3,4-dimethoxyphenyl]amino]carbonyl]hydrazide  
 MF C18 H21 N3 O6



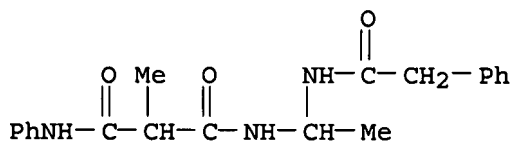
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN 1H-Indole-1-acetic acid, 2-(2-iodobenzoyl)hydrazide  
 MF C17 H14 I N3 O2



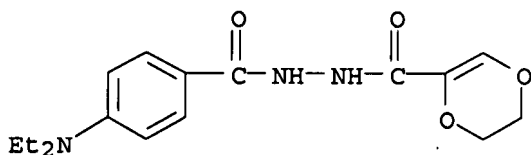
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN INDEX NAME NOT YET ASSIGNED  
 MF C20 H23 N3 O3



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L19 50 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN 1,4-Dioxin-2-carboxylic acid, 5,6-dihydro-, 2-[4-(diethylamino)benzoyl]hydrazide  
 MF C16 H21 N3 O4



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):fil stng  
 'FIL STNG' IS NOT VALID HERE

To display more answers, enter the number of answers you would like to see. To end the display, enter "NONE", "N", "0", or "END".

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> fil stng

COST IN U.S. DOLLARS

SINCE FILE ENTRY	TOTAL SESSION
0.90	152.70

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE ENTRY	TOTAL SESSION
0.00	-26.52

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=> fil reg

COST IN U.S. DOLLARS

SINCE FILE ENTRY	TOTAL SESSION
0.06	152.76

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE ENTRY	TOTAL SESSION
0.00	-26.52

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=> s l18 sss full

FULL SEARCH INITIATED 01:07:42 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 2021223 TO ITERATE

38.1% PROCESSED	770627 ITERATIONS	110808 ANSWERS
46.5% PROCESSED	939856 ITERATIONS	121911 ANSWERS
49.5% PROCESSED	1000000 ITERATIONS	126462 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.41

FULL FILE PROJECTIONS: ONLINE \*\*INCOMPLETE\*\*  
BATCH \*\*INCOMPLETE\*\*  
PROJECTED ITERATIONS: 2021223 TO 2021223  
PROJECTED ANSWERS: 254093 TO 257121

L20 126462 SEA SSS FUL L18

=> fil hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	325.31
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
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FILE LAST UPDATED: 20 Jun 2007 (20070620/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l20

L21 11705 L20

=> s l21 and (hydrophobically modified ethoxyl?)

3306 HYDROPHOBICALLY

587558 MODIFIED

6 MODIFIEDS

587562 MODIFIED

(MODIFIED OR MODIFIEDS)

46474 ETHOXYL?

98 HYDROPHOBICALLY MODIFIED ETHOXYL?

(HYDROPHOBICALLY(W)MODIFIED(W)ETHOXYL?)

L22 0 L21 AND (HYDROPHOBICALLY MODIFIED ETHOXYL?)

=> s HEUR

177 HEUR

47 HEURS

L23 185 HEUR

(HEUR OR HEURS)

=> s l23 and l21

L24 1 L23 AND L21

=> d l24 ibib abs hitstr

L24 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:411163 HCAPLUS <<LOGINID::20070622>>

DOCUMENT NUMBER: 146:231007

TITLE: Effect of copolymer composition on flow properties and film-forming of functionalised latex binders

AUTHOR(S): Snuparek, J.; Quadrat, O.

CORPORATE SOURCE: Institute of Polymeric Materials, University of Pardubice, Pardubice, 532 10, Czech Rep.

SOURCE: Surface Coatings International, Part B: Coatings Transactions (2006), 89(B1), 15-22  
CODEN: SCIPDU; ISSN: 1476-4865

PUBLISHER: Oil & Colour Chemists' Association

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acrylic and styrene/acrylic latex binders comprising functional monomers such as acrylic acid, methacrylic acid, methacrylamide, Me methacrylate, and hydroxyethyl methacrylate in different concentration levels were synthesized. It was shown that the extent of particle swelling and the hydroplasticization of the alkali-swellable particles was affected by the polarity of the 'hard' comonomer. The effect of dissociated carboxylic groups on the increase in latex viscosity and on the lowering of its min. film-forming temperature was much more pronounced in the case of the Me methacrylate comonomer. The thickening of the latices with hydrophobe-modified ethylene oxide urethane (HEUR) associative

thickeners was considerably affected by the hydrophobicity of the particles. Thickening with hydrophobically-modified alkali-soluble emulsion (HASE) thickeners depends predominantly on the excluded volume of swollen thickener particles. The influence of the hydrophobic styrene content was negligible.

IT 431945-90-3, Butyl acrylate-2-hydroxyethyl methacrylate-methacrylic acid-methylenebisacrylamide-styrene copolymer  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (shell; effect of copolymer composition on flow properties and film-forming of functionalised latex binders)

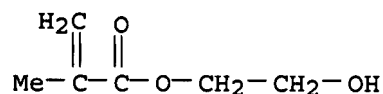
RN 431945-90-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-propenoate, ethenylbenzene, 2-hydroxyethyl 2-methyl-2-propenoate and N,N'-methylenebis[2-propenamide] (CA INDEX NAME)

CM 1

CRN 868-77-9

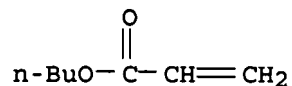
CMF C6 H10 O3



CM 2

CRN 141-32-2

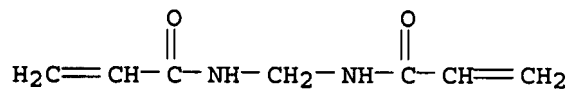
CMF C7 H12 O2



CM 3

CRN 110-26-9

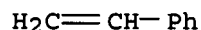
CMF C7 H10 N2 O2



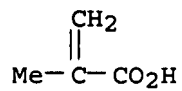
CM 4

CRN 100-42-5

CMF C8 H8



CM 5

CRN 79-41-4  
CMF C4 H6 O2

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